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THE

FARMER'S MAGAZINE:

A

PERIODICAL WORK,

EXCLUSIVELY DEVOTED TO

AGRICULTURE

AND

RURAL AFFAIRS:

1808.

Ye gen'rous Britons, venerate the PLOUGH,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the Sun. THOMSON.

VOL. IX.

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1808.

THE

FARMER'S MAGAZINE:

MARCH 1808.

(No. XXXIII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Strictures on the Honourable Baron Hepburn's Outline View of the Corn Laws, with their Causes and Effects.—See Vol. VI. p. 150.

SIR, *Glasgow, September* 14, 1807.

THE paper of Baron Hepburn in the XXII. Number of your Magazine, upon which I am about to offer some remarks, professes to give 'An Outline View of the Corn Laws, with their Causes and Effects.' Had the execution of the work at all corresponded with this profession, the Baron would have conferred a signal service upon his country. But really I was disappointed in the perusal of an essay, the subject of which, it would appear, has occupied the attention of the writer for a great number of years, and upon which he seems to look with no small complacency. As the title bears, I expected a sketch of all the laws, and particularly the more modern ones, relative to corn; but I could find little or no notice taken of the various acts of Parliament passed in regard to the trade in grain. I could not trace the causes which called these laws into being, nor the effects which their enactment had upon the welfare and comfort of the community. Had he entitled the paper 'On the advantages of a Bounty upon the exportation of Corn,' I should at least have given him credit for making the work correspond with the advertisement. This, however, would have been too humble a title-page for a writer who evidently seems to consider himself so well

qualified to publish upon a subject, which, I am afraid, requires more comprehension of views than what falls to the honourable gentleman's share.

The Baron says, 'The great point at issue betwixt the contending parties, may be condensed into these two questions. Shall we have at all times a free open trade in corn, without bounty upon exportation, and without restriction as to importation from foreign countries? or, Is it more wise and salutary for the nation, that the export of corn in plentiful years should be encouraged by bounties, and the importation of foreign corn prohibited and restricted to cases of necessity; that is, when the home produce of corn, from an accidental bad season, threatens famine?' I do not well know whether or not the Baron's pericranium be a little confused, or if his arithmetical education be but slender. Be that as it may, it is very evident that, instead of two, there happen to be three questions upon which writers are not yet at one, and in all human probability never will. The first relates to the expediency of a free trade in corn, unfettered by any law or statute whatever: the second, to the propriety of giving a bounty upon the exportation of corn, except in cases approaching to famine: and the third, relates to the expediency of prohibiting the importation of foreign corn below a certain price. These are three different views of the subject that have been taken by a variety of writers upon the corn trade, all equally wise in their own conceit. Which of them has the merit of being in the right, I shall not pretend to decide so authoritatively as Baron Hepburn; but, I flatter myself, with as much show of reason upon my side.

I shall, in the first instance, treat of these three questions, generally; and shall then take the liberty of occupying a few of the pages of your Magazine with noticing some of the arguments introduced by the Baron in support of his favourite theory.

1*st*, 'As to the expediency of a free trade in corn, unfettered by any law or statute.' No person of the smallest understanding can read the illustrious author of the Wealth of Nations, upon this branch of political economy, without feeling the irresistible force of his arguments in favour of an open free trade in corn. This great man, however, who has been oftener read than understood, limits the doctrine to its abstract meaning or signification. He contends, that all trades ought to be free, and of course that of corn among the rest. If, however, this universal state of freedom in the commercial world be any how deranged he does not contend that the corn trade, or any other, ought to be kept open, while the others are in a state of thraldom. It is the abstract question only, for which he fights; and certainly he com-

comes off victorious from the field of battle. In the present state of commerce, there is no such thing as freedom; every particular branch of trade is fettered by the selfishness and stupidity of rulers. A man cannot clothe his very nakedness without paying double price for a pair of breeches, to a neighbour, than what he can import that very necessary piece of dress from a distance. The sugar that sweetens his punch, and the rum, without which it could not be made, keeps him, by its artificial price, much oftener sober than he would otherwise be. In such circumstances, it is very evident that an open free trade in corn would be a perfect anomaly amid the clanking of so many chains. Political economy, to be sure, has the singular glory of preaching freedom in the commercial world; but it contends not for a partial, but an universal liberty. When it finds a particular branch of trade with its wings clipt, and its hands tied up, it admits, though not without regret at the cause, the necessity of a similar treatment towards others. Upon this principle, and in the present shackled state of the commercial world, I apprehend that an open free trade in corn cannot be defended with any appearance of plausibility. Indeed, if there be any branch of trade, for the sake of which I would abandon my creed of liberty, it would be for that of grain. If there be any one article of commerce which, taken out of the general rule, merits greater encouragement than others, it is surely that of corn; the most important, infinitely, and in every point of view, to the happiness and comfort of the human race.

2*d*, 'As to the propriety of giving a bounty upon the exportation of corn, except in cases approaching to famine.' The argument in favour of a bounty upon the exportation of corn, is founded upon the encouragement it gives to agriculture, by holding out to the cultivators of the soil a perennial outlet for the raw material. All the excellence of a bounty rests upon this simple proposition; and it is very evident that the benefit, great as it may be, is under deduction of all the cost and expense attending it. Now, if this encouragement can possibly be afforded to agriculture by any other means than a bounty upon the expertation of corn, and at the same time without any outlay, I cannot see the necessity of resorting to an expedient which obviously cuts both ways. Supposing the annual consumption of corn in Great Britain to be 10, and the quantity of it raised 5, it is very evident that there is a great field to the encouragement of agriculture between the lesser and the greater number. For a long time the country must be under the necessity of importing; for it is no easy matter to double the quantity of grain capable of being brought to market. Here, then, is an encouragement to husbandry, cer-

tainly of sufficient importance to call forth all the energies and industry of the farmer, without the expense of one farthing to the nation in the shape of a bounty. Would it not be the very acmè of absurdity, for the nation to be paying to certain individuals concerned in the corn trade, large sums of money by way of bounty, and the very same nation paying at another time a high price for foreign corn imported? This is the candle burning at both ends with a witness. Until more corn be raised than what the inhabitants of the country can consume, it is unnecessary, if not mischievous, to give a bounty upon the exportation of corn. Unless our consumption be much beyond our produce, and we know the reverse to be the case, it appears to me that the Baron, to say no worse of him, is at least premature in his zeal for the landed interest.

As the consumption of this country greatly exceeds its produce, and of course sufficient encouragement is held out to the farmer, I might pause here, and not pursue the flying enemy any further. But supposing that, by magic, more corn was raised than could possibly be consumed, still, with all due deference to the Baron, I do not see the imperious necessity of a bounty upon the commodity. I very much suspect that the great increase in the stock of corn would bring along with it a corresponding addition to the number of mouths; and that, although produce and consumption might bear a nearer relative proportion to each other at one time than at another, it might be contended, that the former could not surely take the lead of the latter. If the produce were to get before consumption for the period of a few years, it does by no means follow that agriculture would be neglected, and farms go to waste, although it might be admitted that farmers would slacken in their exertions, corresponding to the defalcation in the demand. Really I do not see any benefit to be derived to a nation raising more corn than it can consume, *communibus annis*, provided that nation be so circumstanced as not to be affected by any of those causes which at present press down the population of the greater part of the world. This expansive power of population will, in my humble opinion, hold out sufficient encouragement to the farmer not to relax in his exertions; and if the excess really did happen, of produce above consumption, then the remedy of the Baron might be applied to the disease. In our day, no such change of circumstances is at all probable; and while there are so many real diseases in the political body which call loudly for a speedy cure, it seems to be abundantly childish to be at the trouble of taking measures to anticipate what in all

in probability never will happen.

'As to the propriety of prohibiting the importation of corn

from

from foreign countries below a certain price.' This question is necessarily involved in the decision of the first, or is rather a counterpart of it. If a free trade, in the present circumstances of the commercial world, would prove injurious to the country, it follows, as a matter of course, that the importation of foreign corn below a certain price, must also be prohibited. It would be a waste of time, and of the precious room of your Magazine, to expatiate upon the reasons which imperiously forbid the importation of foreign corn. Suffice it to say, that if other articles of manufacture are not permitted to be imported below a certain price, or, in other words, upon payment of a certain duty, and several of them not at all, it does not seem in any degree reasonable to make an exception in favour of that of corn, and to render that trade open while all the rest are in a state of bondage. By this policy the landed interest, I mean landlords and tenants, would suffer in the dearer price of the clothes and drink which they had occasion to purchase, and at the same time be undersold by foreigners in the corn market. If, by the absurd restrictions upon trade in general, they are to be losers in any way, they ought to be permitted to be gainers in the other. Justice can only be done to this class of people by prohibiting the importation of corn below a certain price. This price it may be a little difficult to ascertain and determine; because, if too high, then the level, between the raiser of corn and other manufacturers, is destroyed, to the gain of the former; and if too low, then *vice versa* to the advantage of the latter. I remember very well, at the passing of the late corn law, that a great outcry was raised against the landed interest by the manufacturers in the west of Scotland; but I would just ask these active gentry, if they would be well pleased at the free importation of India muslins, or any other commodity, without paying duty, which would interfere with their favourite manufacture. It was, however, but the interested cry of a commercial party; for the reasonable part of the public soon became sensible, that the rise which then took place upon the rates of the importation of corn, would do no more than put the price of that commodity upon a level with others.

The whole of Baron Hepburn's elaborate paper, is occupied with demonstrating, as he no doubt flatters himself, that there can be no assurance of plenty of corn in this country, without a bounty upon the exportation of that article. He supposes the average yearly consumption of corn to be 12, the average yearly produce 12, and the fair price of that article to be also that number. Now, says he, if a plentiful season shall produce 15 of bread corn, it is obvious, that, without an exportation, the surplus produce of 3 above the annual consumption 12, is superfluous to the state,

and to the industrious husbandman ruinous; because, instead of getting 12 for his 15, he gets only 10. Upon this paragraph I have to remark, that it is a very easy matter, indeed, to make a a supposition; and the person doing so, will certainly form it in such a way as to serve his own purpose. The materials are at hand, and at his disposal; and the devil is in it if he does not fashion the work to his own liking. I shall not deny that a plentiful year, in the kindness of Providence, may occur, so as that the quantity of corn may be augmented in the ratio of 25 *per cent.*, or as 15 is to 12. It does not, however, necessarily follow, that for this 15 the farmer will get only 10. Perhaps the supposed annual consumption of corn, stated to be 12, is owing to the price of the article being at such a rate as not to admit of the inhabitants purchasing a greater quantity, and, of course, eating more. To use an old adage, 'they must cut their coats according to their cloth.' In the event of a more plentiful year than they have been accustomed to, they will have exactly the same sum of money to share; and from their previously having room on their stomach for more bread, they will, of course, pay all that they are possessed of, namely, the 12 for the 15. Besides, it by no means appears to me, that the farmer is to be ruined because their happens to be one plentiful year in the cycle; for, judging from past experience, he is not alarmed at a repetition even of favourable seasons, and will therefore keep the superabundant crop by him till the price of it rises. If a long series of such plentiful years were to happen, I do admit that the farmer would lessen his breadth of sowing, in such a way as that the produce might bear a juster proportion to the consumption than it used heretofore to do. Nothing more would happen; and the famine, as stated by Baron Hepburn, would not follow upon the back of superabundant plenty. The farmer knows very well, that from the produce of grain having been 15, and the consumption only 12, the former is in too great a *ratio;* and therefore, to bring the proportion back to its former footing, he has only to discontinue the raising of grain to that extent. He will not abandon it altogether, as the Baron seems to think; for, besides carrying the joke further than what the state of the case requires, he would very probably be a loser, by having too small a quantity of land under tillage.

The Baron being aware, as no doubt he may, of many persons smiling at this fanciful theory, proceeds to state the facts upon which it is built; and these are said to have been collected, principally from the statute-book, or from history. 'If,' says he, 'my memory does not much misgive me, I think I might appeal to Suetonius, to prove that Britannia Romana, or the Roman Province in Great Britain, was considered to be one of the corn countries,

countries, from whence the Romans drew a regular ſupply of bread-corn for their armies, and occaſionally to Rome herſelf, when the crops of Italy and Africa failed to yield their regular ſupply.' In a matter of hiſtorical evidence, I would humbly recommend to the Baron not to truſt again to his memory, or, at any rate, to have the ſenſe not to tell his readers that he does ſo; for I can aſſure him, that, upon the preſent occaſion, he appears to be ſo very uncertain of the fact himſelf, that I would not believe one word of it, did I not know from other ſources, that it is partly true. This fact is brought forward to prove that this country raiſed more corn in the days of the Romans, than it does at preſent, which I by no means think is in the ſmalleſt degree proved. In the *1ſt* place, It was only one part of Great Britain, and that, no doubt, the moſt productive, from which the Romans drew their ſupplies, ſometimes even to the capital itſelf. *2d*, From the Romans not getting grain from other quarters, it may fairly be preſumed that theſe places could not ſpare any. *3d*, Although Poland, at preſent, exports corn, will it be ſaid that, acre for acre, field for field, it produces more corn than what is raiſed in Great Britain, which, with all its excellent cultivation, imports very conſiderably. It is ſaid, that the ſupplies which the Roman part of Great Britain afforded the maſters of the world, were regular, and ſometimes, indeed, ſtood between them and famine, when the crops in Sicily and Africa failed in their uſual produce. Hiſtory has trumpeted forth not a little the praiſes of a Sicilian crop; but it never pretended to tell a too credulous poſterity, that Great Britain, comparatively ſpeaking a ſavage and barren country, beat it hollow in the production of this eſſential commodity. Baron Hepburn, however, in good faith, and in his ſenſes, would inſinuate as much. This gentleman gets hold of a political fact, which he turns and twiſts to his particular purpoſe, and pretends to ſqueeze ten times more out of it than it is capable of yielding. His premiſes are meagre and ſcanty; but his inferences are without number, and in the face of all probability and common ſenſe.

But ſuppoſing that this impoſſibility was really the fact, and that Great Britain, in an age of barbariſm, produced more corn than it does now in a ſtate of high cultivation, I would aſk the Baron, if there was, at that period, a bounty upon the exportation of corn? If there was none, and I believe our forefathers never dreamt of ſuch a thing, how could this great exportation, according to his theory, take place? Here, then, at one period of our hiſtory, a bounty upon importation was unneceſſary; and if ſo at one period, why not another? I leave it with the Baron, how to account for what, in his apprehenſion, is impoſſible; and

I do think, that he will find it no eaſy matter to reconcile the fact of which he is himſelf the author, with the tenor of his previous reaſonings.

'Were it german (ſays he) to my preſent ſubject, it would not be a difficult taſk to eſtabliſh, by preſumptive evidence, that England, towards the cloſe of that reign, was in a ſtate of more generally productive cultivation, and not much leſs populous than it now is.' In ſupport of this hypotheſis, he refers his readers to the map of Britannia Romana, covered with villages and townſhips, without chaſes, commons, or extenſive deer-parks. Now, Britannia Romana, as has been already remarked, was only a portion of the kingdom; and therefore, this evidence in regard to it, even if it were concluſive, does not extend to the whole iſland. Beſides, a perſon talking of the preſent population of Great Britain, would make uſe of the very words of the Baron, and point out to the eye the numberleſs towns and villages, which, in the ſouthern part of the kingdom at leaſt, ſtud the whole face of the country. If the gentleman believes in the non-exiſtence of chaſes and deer-parks, at a period when hunting was the order of the day, and in the nonentity of commons, when agriculture was but in its infancy, I pity his credulity, and wonder at his folly, in publiſhing it to the world. I for one cannot conſent to forego any little underſtanding I may be poſſeſſed of, and follow his example.

In the year 1266, it ſeems that wheat ſold at 3s. 1d. of our money, per quarter; and only four years afterwards, 1270, it roſe to the enormous price of 19l. 16s. 9d.; and this dreadful riſe is attributed ſolely to there being at the time no bounty upon the exportation of that commodity. I ſhall admit, for the ſake of argument, that the farmer of thoſe days could not afford to raiſe a quarter of wheat for 3s. 1d.; but I deny moſt poſitively, that there was any reaſon for abandoning almoſt entirely the cultivation of that article. It is moſt evident, that the raiſer of corn, like any other manufacture, will be at the trouble and expenſe of cultivating it no longer than it continues to reimburſe him; and therefore, when he finds that too much is raiſed for the average annual conſumption of the country, he curtails to that extent his arable land, but does not abandon it altogether. I ſhould imagine, that if the Baron had been able coolly and diſpaſſionately to weigh the cauſes of the ſcarcity in 1270, he would find that it aroſe partly from the diſturbed ſtate of ſociety at the time, and the dearth that happened in the previous year. This ſcarcity, I apprehend, was but little, if at all, occaſioned by the abandonment of cultivation, but almoſt entirely by one of thoſe unforeſeen viſitations with which it pleaſes Providence, now and then, to afflict the human

human race. It is astonishing to me, how any person, at all acquainted with agriculture, can believe, that the culture of grain may be abandoned, and sheep-feeding introduced over the whole surface, in the course of four years. Changes in farming are not so rapid in their motions, as in other manufactures; and an alteration of so very wide and important a nature, could not possibly take place, but after a long lapse of time. About this period, wool became an article of exportation; and this circumstance affords Baron Hepburn an argument for inferring, that sheep-feeding had nearly supplanted the raising of grain; for he could not well banish the one, without putting the other in its place.

I am very unwilling to deny what a gentleman is pleased to say; but, giving every credit to the high prices which a scarcity necessarily produces, I must be excused from believing, that what was, in 1266, 8s. 1d. per quarter, rose, in four years thereafter, to 19l. 16s. 9d.: there must be an arithmetical error in this statement, somewhere or other. It is really wonderful, with what facility this gentleman presses the whole table of arithmetic into his service. When convenient for his argument, he puts down his favourite figure, when, with equal propriety, he might as well have made use of any other in the whole compass of vulgar arithmetic. The price of an article depends upon a variety of contingent circumstances; and how he can have the face, in the 1805, to say, what would have been the price of that article in the 1260, had there been a bounty upon the importation, I cannot divine. He thought ten shillings a moderate rise upon the commodity; and therefore as it would not shock probability, he flattered himself that it would pass quietly with his readers without suspicion.

As a further proof that the excessive low price of 1266 led to the total abandonment almost of agriculture, the Baron quotes *verbatim* a statute in the reign of Henry the VII. I can very well understand that the low price of 1266 might have had the effect of damping the exertions of the farmer, and have induced him to sow a smaller quantity of corn than he otherwise would have done. This abandonment, however, to use the Baron's own expression, would have been exactly in the ratio of the want of encouragement to raise corn, and not a whit more. The moment that the quantity of grain diminished so much as to pay the grower a fair and reasonable price, the abandonment complained of would as naturally cease as it had begun. As it was the absence of encouragement which made the farmers relinquish the raising of corn, they would begin of new to increase their tillage the moment it returned; or, in other words, the abandonment would be no greater than the want of encouragement. It is most evident, therefore, that the abandonment, which is represented by this

this writer to have been nearly total, never could have fallen below the point of failure of encouragement; and this want could extend only so far as to allow the extra quantity of grain to be consumed; and things would then proceed as before. If, therefore, it be true that the production of corn had become so very unfavourable as stated by the Baron, it could not have been owing to the low prices of 1266, for that evil would have cured itself by an after rise in the price of the article. Other causes must have produced the effect, the civil wars, want of personal security, and others of a civil or political nature.

This statute is a lamentable instance of the futility of acts of Parliament, and the stupidity of legislators. If corn husbandry had so much decayed, it must have been owing to a want of encouragement in the cultivation of the soil, and this again to some political cause or other. In order to prevent any further decay, one would imagine that the plain and obvious path was to remove the obstacles in the way of the culture of the soil. This, however, the royal legislator does not attempt; because, I imagine, that he either did not choose to give himself the trouble, or was unable to discover the causes of the alleged decay. The removal of abuses, we know very well, even in our day, is too herculean a labour for the shoulders of a legislator of the blood-royal; and, therefore, we need not be surprised that Henry the Seventh did not make any attempt to clean the Augean stable. His Majesty does what is the most easy for him to do; he passes an act of Parliament ordering his loving people to put a stop to the progress of further decay, as if they either could or would obey his royal mandate. The decay of which he complains had arisen from causes beyond the controul of his people; and how could they, even with the assistance of an act of Parliament, prevent the continuation, of which they could not ward off the beginning?

By a statute of Henry the Eighth, it was enacted, that no man should keep above 3000 breeding ewes, of which the Baron thinks the object was twofold; 1*st*, To destroy a monopoly, which had raised the price of sheep from five to eight shillings; and, 2*d*, To compel them to turn a portion of their immense capital from the feeding of sheep to the cultivation of the soil. I do not, for my part, see how large flocks of sheep should necessarily raise the price of the animal. The fact merely proves, that there were at that period some very extensive graziers, but not a tittle more. If the total number of sheep was one million, and the feeders only ten, then, no doubt, the small number of sellers would combine, and dispose of the mutton at their own prices. This, however, is supposing there were no small feeders, which is begging the question; for that fact is nowhere mentioned in

the

the statute. If, therefore, the number of small feeders were in a similar proportion to the large, which we are bound, for aught we know, to presume; then the numbers of this useful animal must have been very considerable, and no monopoly, of course, could take place. I believe that the second reason stated by the Baron was the actual one, for it tells well enough; but how could the object of it possibly be accomplished? A feeder of 6000 breeding ewes, finding that he could not by law keep above 3000, might, by a very simple contrivance, elude the act altogether. He could easily divide his *quondam* flock of 6000 into two of 3000 each, and give the command of one of the corps to a first or second cousin. The monopoly, against which the thunder of the statute was directed, would not be in the smallest degree affected by it; and not a single farthing would be abstracted from the feeding of sheep, and converted into a capital, for the better cultivation of the soil.

Henry the Eighth could not be supposed to be much wiser than the Seventh of the same name. Had he been in the slightest degree acquainted with the principles of political economy, he would not have put himself to the smallest trouble about lessening the number of sheep, or attempted to force his subjects to raise more grain than they were willing to do at the time. The fact is, that the feeding of sheep, and the cultivation of the soil, should be left totally to themselves; and the demand for mutton and loaves will regulate the number of the one and the quantity of the other. If a great number of sheep be fed, it is plain that there is a demand for them; and why should not the lovers of mutton be indulged in the pleasures of the table? It is ridiculous to enact a statute prohibiting the feeding of any more sheep, with the view of encouraging the growth of corn; for if there has been no previous interference of the Legislature, we may be assured, that the feeders of the one, and the raisers of the other, brought to market exactly according to the demand: If too little of the one or the other has been brought to market, then more will; but it is totally impossible to force more than what there is a demand for, or for which there happen to be purchasers.

It is said by Baron Hepburn, that, 'in a subsequent reign, a tax upon corn exported seems to have been one of the ways and means for raising the revenue:' but in what reign this financial regulation was introduced he does not mention. The fact proves, that there was, at the very moment the Legislature were exhausting all their ingenuity to augment the quantity of corn in the country, more of it in the market than what could be consumed at home. Why then force the production of a further quantity, when the consumption of the country was unequal to the produce? or how could such an absurd regulation ever be enforced?

'It

'It is a fact' (says he) 'that at a very early part of that period, the interest of money was reduced from 7 *per cent.*, which Charles the Second always paid, to 5 *per cent.*; and during the whole of it, money generally was borrowed at 4 *per cent.*, or at least during the best half of that period; and until I shall be better informed and instructed, I shall hold that this diminished value of money arose from the sudden and unexpected influx of so large a supply which the export of corn produced in the land.' That an influx of money into the country should arise from the exportation of corn, as it will do from that of any other commodity, it would be as ridiculous to deny, as it is senseless to state, with so much parade, what is evidently a truism. But it is pushing the admission by much too far, to attribute the increasing wealth of Great Britain solely and entirely to this cause. The country had now begun to recover from its revolutionary struggles; and, by applying itself to those arts of industry which a state of tranquillity never fails to encourage, had made some little progress in the career of general prosperity. Does Baron Hepburn suppose, that the nation was successful only in the raising of corn, and that, in all the other manufactures of the country, she was, if not a loser, at least no gainer. Besides, unfortunately for himself, this gentleman gives *data* by which his arguments are overturned. Like some of the judges of a Supreme Court, but which shall be nameless, he might probably have escaped without detection, had he not been bold enough to indulge your readers with his *ratio decidendi*. The exportation of corn is said to yield to the country half a million of money annually, which, when multiplied by 70, the whole of the period during which this great prosperity took place, a total sum of 35 millions is produced. Now, it is very palpable, that unless the country was gaining from other sources than that of corn, no such fall in the rate of interest could possibly have happened. Nothing but an universal prosperity over the whole face of the kingdom, can account rationally for so great a depreciation in the value of money.'

'The two millions that, in the 1795, we paid to the Americans for corn, intercepted and afterwards detained, and the six millions we paid for foreign corn, and for bounties to foreigners to fetch it, in the year 1796, was the sole cause of the stoppage of the issue of specie by the Bank of England. The foreign subsidies we paid were a mere drop in the ocean.' Every evil under the canopy of heaven is conjured up by the affrighted imagination of the Baron, as arising from the importation of foreign corn; and the payment of a sum, no matter how large, in any other way, does not effect the nation in the smallest degree. If the exportation of specie in the purchase of bread corn be greater than

in the payment of subsidies to foreign powers, then the former will be more injurious to the State than the latter, in the proportion exactly of the greater advance. It is a question of figures, and nothing more; so that the comparative bad effects of the two kinds of exportation can be settled without the smallest difficulty, by an appeal to the Rule of Three. The nature of the injury inflicted is, in both cases, the very same; and the body politic suffers exactly in the extent to which it is carried. The Baron very wittily tells us, that the money paid away in subsidies resembles pigeons in a dove-cot; and, like these birds, very soon returns to the country from which it had originally emigrated: but the money expended in the purchase of foreign corn remains for ever locked up in the strong boxes of the raisers of that commodity upon the Continent. It is singular to see a man of the Baron's time of life and experience talking so simply upon a subject so very plain and so easily understood. In the case of subsidies, the money is spent in the country to which it is remitted, and comes in process of time to be circulated among a vast variety of different people, as much so as that which brings home the corn from the Baltic. In both we find the cash equally spread over a wide surface, and, to all appearance, lost for ever to the nation. It is the property, however, of industry, always to attract money to itself; and as this country manufactures, cheaper and better than other nations, almost every species of raw material, the money which has been remitted to the seller of corn, or the dealer in blood, finds its way back to the spot from which it had originally started. It is upon this simple principle that the general and unexampled property of Great Britain is to be explained, notwithstanding of the prodigious losses it has sustained by the numberless wars in which it has been successively engaged.

I am really now tired to death with examining a paper which, we are told, had acquired some celebrity in its day; but for what reason, the readers of these remarks will perhaps wonder at. It is impossible to move one step, without stumbling upon some irrelevant quibbling or fallacious argument; and, though a little scandal may be occasionally pleasant enough, it is tiresome to a degree to be perpetually finding fault. I might continue and multiply these criticisms without end: but really, where there is so much to blame, the subject of our censure ceases to be deserving of further notice, either from the writer or the reader.

I am, Sir, your most obedient servant,

A Constant Reader.

FOR THE FARMER'S MAGAZINE.

Mr Salter's Method of improving Grass Land. Communicated by SIR JOHN SINCLAIR, *Bart.*

To the Rev. St John Priest, Secretary to the Norfolk Agricultural Society.

SIR, *Whinbergh, 25th October,* 1805.

As our president, Mr Coke, has expressed himself in terms of approbation so highly gratifying to me upon my method of improving poor pastures and boggy meadows, and particularly when he honoured me with a visit this summer for the purpose of examining a meadow which was then in its highest state of improvement, with a crop growing upon it; I readily comply with your request, and have sent you the best information I can, of the method which I have pursued, now ten years, in that line of farming; a method which originated in accident, but which has been ever since carried on systematically.

At Michaelmas 1795 I entered upon this farm, consisting of upwards of 600 acres, of which the greatest part is wet, springy, cold land. There were at that time about 100 acres of bad meadow, so overrun with rushes, sedges, and all sorts of aquatic plants, that no sheep had ever been known to be pastured upon them; whereas, for the last eight years I have not had a single instance of a rotten sheep. I first cut the rivulet which runs through the meadow, 352 rods in length (reckoning seven yards to a rod), and eight feet wide. I also cut 1116 rods of open drains; and the turf or sods which came out of them, I laid to dry in the months of February and March; and as soon as dried, I gathered them on large heaps of sixty and one hundred loads, and burnt them to ashes. On the 2d of April 1796, I dibbled about two acres of that part of the meadow which was most dry, and immediately I carried on, in half-load tumbrils with broad wheels, about 15 loads per acre of the turf ashes: then I sowed 16 or 18 pounds of Dutch clover, and four bushels of rye grass, *i. e.* eight or nine pounds of Dutch clover, and two bushels of rye grass, per acre. These I brushed with a pair of harrows bushed, and rolled three or four times with a very heavy roll, in order to make them as firm as possible. Upon that part of the meadow which was boggy and rushy, I laid from 80 to 100 tumbril loads per acre of sand, fine gravel and mould, as I could most conveniently come at them, cutting and carrying away every hillock or waste earth which I could find. Having harrowed and rolled this, I dibbled upon every acre two bushels of summer vetches, one bushel of early grey peas, and two bushels

shels of Poland oats, all mixed together; and then sowed Dutch clover and rye grass as I did upon the dry part of the meadow, in which I omitted the oats, knowing they would not have succeeded.

In dibbling thus, the holes ought to be four inches square from each other, and from two to four seeds should be put into a hole. Peas and vetches thus growing upon grass land, whether on low meadows or dry uplands, have never failed, with me, of having excellent effect. They entirely destroy moss, and ameliorate the soil. It is to be observed, that upon dry uplands I omit the rye grass. When the crop is forward in the pod, I mow it for hay; and as soon as it is dry, I put it up in small cocks, and then into large ones, so as to prevent the leaves from falling off. If I do not want this hay for my sheep, I cut it for my horses; and it is so nutritious, that it serves both as hay and corn.

In the year 1803 I grew 80 acres of vetches, peas, and oats, managed as above. The crop was not less than from two and a half to three loads per acre. By a load you know I mean, as much as a waggon drawn by four horses can carry. In the same year I sowed 100 acres of turnips three times over, and at last lost my whole crop, except a single turnip. I had 532 breeding ewes to maintain in the following winter. Having provided 80 troughs, 12 feet long, and a straw-cutting machine (which with a horse will cut ten coombs an hour), I cut the hay made of the vetches, peas, and oats, and thus fed my sheep, which produced me a greater number of lambs, and a greater quantity of milk for the lambs, than I ever had from turnips. They were kept in the straw-yard from the 10th of October to the middle of April; and thus I kept them last year, and shall always keep them whilst I remain upon a heavy-land farm. They eat the straw well, and make a far better yard of muck, than that from bullocks. It was by much the best muck I ever had, except a yard of muck, where I fatted 220 pigs, by scattering peas about the yard. As a proof of my success in lambs in the year 1804, you know, my shepherd, Thomas Nunn, gained one of the premiums (five guineas) from the Society.

In February 1805, a seventeen-acre meadow was become solid. I filled up the open drains, and cut 995 rods of under-drains, which I filled up, part with bushes and part with stones. Upon April 4th, I began to dibble vetches and peas; then carried on about 15 loads per acre of outhollowing, muck, and mould together; sowed Dutch clover and rye grass, and brushed them as usual. The crop was abundant;—I got 63 loads of hay from the

17 acres. This was the meadow which Mr Coke, Mr Gurdon, you, and other gentlemen, admired so much, and deemed an improvement in the management of grass land deserving of high commendation.

I will not omit to tell you from what accident this method of managing grass lands originated. In the year 1784 I had a piece of grass land eaten up by grubs. I sowed vetches upon it, and harrowed them. They produced so good a crop, that I have continued the practice to the present time. Indeed I carry it on in every instance where I can; for whenever my leas of clover fail, instead of breaking them up, I dibble or drill vetches early in the spring. It is worthy of remark, that the rye grass and Dutch clover upon my meadows come much earlier, and grow faster, than the leas upon my arable land.—Be assured, that I shall have pleasure in attending you to Reepham, to examine your pastures there, in order to *salter* them, as you are pleased to call my method of improving grass land.

I am, Sir, your obedient Servant,

WILLIAM SALTER.

P. S. I as often use the drill roll for the vetches and peas, as I do the dibbles. Please to observe also, that I never plough, pare, or scarify my grass lands.

FOR THE FARMER'S MAGAZINE.

On the proper Kind of Seed Wheat, and the Causes of Smut and other Disorders to which that Grain is liable. By Sir JOHN SINCLAIR, Bart. President of the Board of Agriculture.

THERE is reason to believe, that the practice of using young seed, instead of old seed, has greatly contributed to occasion the smut, and the other disorders to which that grain is liable. Any thing that weakens the plant, must sooner or later be the parent of disease. Now, young seed germinates immediately, and the flour it contains is not so thoroughly ripened; hence the young plant must be weaker: Whereas, old seed lies for a considerable space of time in the ground before it germinates; takes a stronger hold of it; the flour by which the young plant is at first sustained, is in a more perfect state; and the plant itself, being stronger, is consequently less liable to disease. In men, and other animals, *gradual growth* is a great sign of health and longevity; and why should not the same principle extend to vegetables? It is observed, that the

the fine thin skinned American wheat, is very apt to suffer by the mildew, owing, it is supposed, to the same circumstance, of early or too rapid germination.

It is probable, that the practice of using young seed, might be introduced in times of scarcity, when the high price tempted the farmer to dispose of the whole of his old stock. Its speedily appearing above ground, might be an argument in its favour, without adverting to the after consequences, which might not be observed at the time, or attributed to other causes. I am informed, that a Mr French of Balliricay, who farms in the hundreds of Essex, constantly uses old wheat; in that respect imitating the example of his father, who was led to the practice, by finding that old seed was in general cheaper than new. It is said, that neither he, nor his son, ever had smutty wheat; and their crops have always been remarkably good. In their practice, provided the seed was sound and sweet, size or bulk was not much regarded; age being the principal object attended to.

These observations are made for the purpose of calling the attention of farmers to so interesting a subject of inquiry. It is to be hoped, that many experiments will be tried, in various parts of the country, for the purpose of ascertaining the important fact, whether new or old seed ought to be preferred, and the grounds thereof.

It would be of great use to ascertain, 1*st*, Whether the wheat should be preserved in the straw, or in sacks. 2*d*, Whether young seed, if it must be used, might not be improved, by being gently kiln-dried, so as not to hurt the germ: by this practice, the grain might be consolidated, and the flour, on which the plant must at first be maintained, more fully ripened. 3*d*, Whether the substance which occasions smut, and which must possess animal or vegetable life, is not destroyed, or at least weakened, by the wheat being kept for a year. 4*th*, Whether steeping is as necessary for old wheat, as for new. And, 5*th*, Whether it is not owing to the weakness of the plant, and not to blights, or other aerial influences, that it is liable to smut, and other disorders. It is singular, that spring wheat is less liable to mildew, and other disorders, than winter wheat; which perhaps may be partly owing to the circumstance, that it never can be sown till several months after it is produced.

The points above alluded to, can be ascertained with peculiar advantage this year, as old wheat is still sufficiently abundant to be used on a large scale.

It is to be hoped, that many experiments will be tried in the course of the season, and that the result thereof will be transmitted to the Board of Agriculture, to whom such information

must be particularly acceptable. Indeed, those who communicate experiments upon this subject, will be well entitled to the thanks of the Board, and of the country.

This paper having been transmitted to Mr Arthur Young, he returned it with the following remarks.

'The advantage of sowing old seed has been long known in Gloucestershire, and generally practised on the Cotteswold hills, where they sow so early, that they cannot use new seed; and there they do not steep on that account. In my Report for Norfolk, p. 299, you will find trials and practice. See also Bannister's Synopsis, p. 84. I have sown old seed repeatedly, and never knew it smutted. See Essex Report, Vol. I. p. 302.'

FOR THE FARMER'S MAGAZINE.

Letter from a Corn Agent in London, to a Gentleman in Scotland, explaining the Methods used to ascertain the Average Prices of Grain. Communicated by GEORGE DEMPSTER, *Esq.*

SIR,

WE yesterday had the pleasure of receiving your esteemed favour, with an order on Pybus & Co., for which we thank you, and which is at your credit. Respecting your queries as to the quotation of prices of grain in the newspapers, we must state, that all sales of grain made on the Corn Exchange of London, are returned weekly to the clerk of the market, with the prices and buyers' names; which return, is given by him, to persons appointed by law, called Receivers of Corn Returns, and from which account, a weekly average is published in the London Gazette. The quotations in the papers are general, and alluding to the general prices; and where an extreme price is given, it must be presumed, that the article producing it, is of an extreme quality, and *vice versa;* which quotations could not properly be inserted in a list of prices, purporting to be the general prices of general qualites. We have, however, a monthly publication of a price-list, which we beg to send you enclosed; and which will, we conceive, explain what you wish; and to which, it may be added, that, in looking at quotations of prices of the same day's market in different papers, you will find much variety.

The following is the monthly publication referred to in the above letter.

WOOD-

WOODHEAD'S MONTHLY STATEMENT *of* WHEAT, FLOUR, *and* BREAD, *in* LONDON *and its* ENVIRONS, *for August* 1807.—LEIGHTON, *Mayor.*

MEAL-WEIGHERS' REPORTS.

Date of Report Monday.	Quantity of Quarters returned.	WHEAT. Prices per Quarter. highest		lowest.		Average.		General Prices of Flour per Sack.		
	Qrs. Bus.	s.	d.	s.	d.	s.	d.	s.		
August 3	4334 5	90	0	56	0	70	0	63	64	65
10	2128 2	85	0	55	0	71	5½	63	64	65
17	4560 7	88	0	56	0	72	9¼	62	63	65
24	3812 6	81	0	61	0	71	11¼	58	60	63
31	6289 1	80	0	56	0	68	11¾	58	59	60

				s.	d.
Total quantity	21,125 Q.	5 B.—Aver. Salt included		71	8¼
Last Month	16,922	5 —Ditto		73	5½
Advance ..	4,203 Q.	0 B.	Reduction ..	1	9¼

Date of Report Monday.	Quantity of Sacks returned.	FLOUR. Prices per Sack. highest.		lowest		Average.		Wheaten Bread Quartern Loaf.
		s.	d.	s.	d.	s.	d.	d.
August 3	12,623	70	0	55	0	64	3¾	11¾
10	12,550	70	0	55	0	64	4¼	11¾
17	10,246	68	0	54	6	63	3¾	11¾
24	11,058	65	0	50	0	59	10¼	11¾
31	11,771	65	0	50	0	59	7¾	11

				s.	d.
Total quantity	58,248 Sacks—	Aver. Salt included		63	1¼
Last Month	58,244	—Ditto		65	0
Advance	4 Sacks.		Reduction	1	11¼

		s.	d.
Note.—WHEAT, Average per Quarter		71	8¼
FLOUR, ditto per Sack		63	1¼
	Difference	8	7

ASSIZE OF WHEATEN BREAD.

1807.	Average Price of Flour per Sack.		Add Baking and Salt thereto.		Total with Baking and Salt.		Price of Peck Loaf Wheaten.		Amot. of 20 Peck Loaves.		The Baker per Sack. Dr.		Cr.	
	s.		s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Aug. 3	64	3¾	14	1	78	4¾	3	11	78	4			0	0
10	64	4¼	14	1	78	5¼	3	11	78	4			0	1
17	63	3¾	14	1	77	4¾	3	10	76	8			0	8¾
24	59	10¼	14	1	73	11¼	3	9	75	0	1	0¼		
31	59	7¾	14	1	73	8¾	3	8	73	4			0	4¾

☞ The net Balance due to the Bakers, from May 19th to the present Time ..... } Fractions included { L. 819 . 18 1½

☞ The Assize of Bread being regulated by the Magistrate, or Magistrates, on Tuesday in every Week, the fluctuating Difference resulting therefrom, according to the Assize Table (operating for or against the Baker), the same is regularly entered in a Book for that purpose; and when the Balance thereof doth amount to the Sum of 1250l. (on either side) the Price of Bread is advanced or reduced half an Assize, or 20d. per Sack on 15,000 sacks of Flour (for one Week only) agreeably to the Acts of Parliament.

FOR THE FARMER'S MAGAZINE.

An approved Receipt for making Gooſeberry Wine, which has often been miſtaken for Foreign Wine of a fine quality. Communicated by a Gentleman in Forfarſhire.

To each Scotch pint of full ripe gooſeberries maſhed, add one Scotch pint of water, milk warm, in which has been diſſolved one lib. of ſingle refined ſugar: ſtir the whole well, and cover up the tub with a blanket, to preſerve the heat generated by the fermentation of the ingredients: let them remain in this veſſel three days, ſtirring them twice or thrice a day: ſtrain off the liquor through a ſieve, afterwards through a coarſe linen cloth: put it into the caſk: it will ferment without yeaſt: let the caſk be kept full with ſome of the liquor reſerved for the purpoſe. It will ferment for ten days, ſometimes for three weeks: when ceaſed, and only a hiſſing noiſe remains, draw off two or three bottles, according to the ſtrength you wiſh it to have, from every twenty-pint caſk, and fill up the caſk with brandy or whiſky; but brandy is preferable. To make it very good, and that it may keep well, add as much ſherry, that is, a Scotch pint and a half of brandy, and as much ſherry together, with a quarter of an ounce of iſinglaſs diſſolved in water to make it quite liquid: ſtir the whole well. Bung the caſk up, and ſurround the bung with clay; the cloſer it is bunged, the better: a fortnight after, if it be clear at top, taſte it: if not ſweet enough, add ſugar to your taſte: twenty-two lib. of ſugar is the juſt quantity in all for twenty pints of wine: leave the wine ſix months in caſk; but after being quite fine, the ſooner it is bottled, the more it will ſparkle and reſemble champaign. The proceſs ſhould be carried on in a place where the heat is between 48 and 56 Farenheit's thermometer.

N. B.—Currant wine may be made in the ſame manner.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Mr Park, Secretary to the Selkirk Agricultural Club.

SIR,

WE have a Farmer's Club here, which diſcuſſes an agricultural queſtion every month: In March laſt the following one came under conſideration, viz. 'Whether will a field of dry ſand, within ſeven or eight miles of marl, in the courſe of ſeven years, produce more value to the farmer, by being kept in the four-break huſbandry and marled at the rate of 30 ſingle carts per acre; or by

or by irrigation, without the benefit of runners, from peat or marl moſſes?' There were thirty-three members preſent, of whom thirty-one declared in favour of the four-ſhift cropping; and I am deſired to tranſmit to you the reaſons on which their opinion was founded, with a requeſt to inſert them in your uſeful Magazine.

The Land, in its natural ſtate in both caſes, may be valued at 15s. per acre. The Expenſe of the Four-ſhift Cropping will be as follows.

1. Year.	To 4 ploughings, breaking and harrowing	L.	2	8	0
	To 30 carts marl, prime coſt, carriage, ſpreading, &c.		7	9	0
2. ditto.	To 1 boll potatoe oats, at 22s. Linlith. meaſure		1	2	0
	To ſowing and harrowing ditto		0	5	0
3. ditto.	To ploughing, ridging and harrowing		1	8	0
	To 16 carts dung, carriage and ſpreading		3	7	0
	To ſeed (turnip) ſowing and hoeing		0	8	0
4. ditto.	To ploughing, harrowing and ſowing		0	12	0
	To 3 firlots barley, at 28s.		1	1	0
	To 12 lib. clover and 1¼ buſhel rye graſs		0	17	0
	To ſtoning and rolling		0	8	0
5. ditto.	To mowing, making and ſtacking hay		0	10	0
6. ditto.	To ſowing, ploughing and harrowing		0	13	0
	To 1 boll potatoe oats		1	2	0
7. ditto.	To ploughing, ridging, harrowing, dunging, &c. &c. as in the 3d year		5	3	0
	Total expenſe for 7 years	L.	26	13	0

N. B. The labour of reaping and thraſhing is ſuppoſed to be fully repaid by the ſtraw of the white crops.

The average Returns of Land, of the Value, and according to the Management abovementioned, are as follows.

1. Year.	Nothing	L.	-	-
2. ditto.	By 8 bolls potatoe oats, 22s.		8	16	0
3. ditto.	By turnips		5	5	0
4. ditto.	By 7 bolls barley, at 28s.		9	16	0
5. ditto.	By 200 ſtones hay, at 8d.		6	13	4
	Foggage of ditto		0	18	0
6. ditto.	By 9 bolls potatoe oats, at 22s.		9	18	0
7. ditto.	By turnip		5	10	0
	Amount of returns	L.	46	16	4
	Amount of expenſe for 7 years		26	13	0
	Amount of clear profits	L.	20	3	4

IRRIGATION.

To expenſe of farming an acre of dry Haugh or Holm Land by irrigation - - -	L.5	0	0
Repairing and upholding ditto, for 7 years, at 5s. *per an.*	1	15	0
Mowing, making and ſtacking ditto, for 6 years, at an average only of 7s. 6d. yearly, on account of the inferior produce of the two firſt years - -	2	5	0
Total expenſe for 7 years - -	L.9	0	0

Average Returns of an Acre of dry Land under Irrigation.

1. Year.	Scarcely equal to the rent -	L.0	15	0
2. ditto.	By 40 ſtone hay, at 5d., ſpring bite and aftermath - -	1	2	6
3. ditto.	By 80 ditto, at 5d. ditto, ditto,	2	5	0
4. 5. 6. & 7. ditto.	By 120 ditto, at 5d. each year -	13	4	6
	Amount of returns in 7 years			17 7 6
	Amount of clear profits for ditto -			L.8 7 0
	Difference in favour of the four-ſhift cropping - -	L.11	16	4

In explanation of the above, I am deſired to add, that every article of expenſe in the four-ſhift huſbandry, is calculated at the higheſt rate of the country; and that the produce, eſpecially in new improven land, is not at all uncommon in this neighbourhood; though it muſt be admitted, that the ſame land, if ſown a ſecond time with clover and rye graſs, will only produce from 150 to 180 ſtone; and that, conſidering the uncertainty of our climate, we cannot reckon always upon ſo large a return of barley. The caſe, however, is the reverſe with reſpect to oats; and turnips, every year, are riſing in value. On the other hand, the produce of the irrigated land, is ſtated at fully more than it has hitherto yielded, upon a fair average of all the DRY haugh land that has been ſubjected to that operation. At the ſame time, there is no ſaying, from our experience, what additional increaſe may be obtained from perſiſting in that ſyſtem for a ſucceſſion of years; and there is not much probability of the annual expenſe greatly exceeding the ſum ſtated.

Your readers will obſerve, that the above relates entirely to dry turnip land. In other kinds of land, particularly ſuch as are inclined to be marſhy and to produce coarſe graſſes, irrigation has had the effect of correcting the quality and increaſing the quantity of the produce, far beyond the above ſtatement.

It

It may be proper to add, that the country all around us is *hilly*, conſiderably elevated above the level of the ſea; and that, though there is marl in the neighbourhood, no water coming from it irrigates any land. There are alſo many moſſes on the tops of the hills, from which the waters acquire a deep tinge after heavy rains. Such waters are conducted through the irrigated fields; but, from the weakneſs of the fertilizing quality in them, and coldneſs of the climate, the land is not thought to be ſo much enriched as might be expected.

Perhaps, alſo, irrigation may have the leſs effect here, on account of the thin population of the country; and, conſequently, the ſtreams little enriched by liquor from dunghills.

I am, Sir, your moſt obedient ſervant,

ALEX^R. PARK, *Secretary.*

Selkirk, 23. September, 1807.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints as to the Means of Preventing the Depopulation of the Highlands.

SIR,

MR DAVID LAURIE has tranſmitted to me, from the Weſt Indies, a number of obſervations which occurred to him, in the courſe of a tour through the Highlands, by which, in his apprehenſion, the depopulation of thoſe valuable diſtricts might be prevented, and the natives thereof uſefully employed. He has requeſted me to apply his remarks in any manner that I think beſt calculated for the benefit of his native country. In compliance with his wiſhes, I beg to tranſmit them for inſertion in your valuable publication, where they are likely to be peruſed by numbers of active and intelligent men, and preſerved from oblivion. I remain, Sir, your very obedient ſervant,

JOHN SINCLAIR.

Charlotte Square, Edinburgh,
12th June, 1807.

To Sir John Sinclair, Baronet, &c. M. P. &c.

SIR,

As it is well known that every communication, which has for its object the improvement of the Highlands of Scotland, will not only meet with your cordial reception, but be applied, through

your extenſive influence, to the moſt proper purpoſes, I ſhall, without any apology for thus intruding myſelf upon your notice, ſend you certain remarks that I was led to make, in conſequence of an excurſion through the greateſt part of that country three years ago. I once intended to have made them public; but the want of information regarding certain particulars, prevented me from putting my intentions into execution. From caſual reading, and from miſcellaneous obſervation, however, I am ſatisfied that my views are not only capable of doing much real good to the country, but that they have not heretofore been adopted by any other perſon. It is for this reaſon that, thinking it my duty to avail myſelf of the leiſure which my paſſage to Jamaica affords me, I have drawn up theſe remarks into as regular a form as poſſible; and I now tranſmit them to you, to be applied and made uſe of in any ſhape that you think beſt for the benefit of my country. I am conſcious that, in ſome things, my want of correct information may have ſomewhat miſled me: There is, however, nothing of that ſort which can affect the general principle on which my views are taken, eſpecially as I ſend them to one, who is not only well qualified to diſcriminate theſe errors, but who will alſo intereſt himſelf in giving to my intentions, in ſo far as they correſpond with exiſting circumſtances, that weight which their nature and their importance deſerve.

In common with you, and with every real friend to the Britiſh empire, I cannot but lament the depopulation that has taken place in the Highlands. I do not allude merely to the numerical loſs of population, though this is a thing in itſelf ſufficiently affecting. It is the particular character of the people who are thus expatriated, and the manner in which this takes place, that makes the matter appear to me moſt affecting. A brave and robuſt race of men, who have poſſeſſed and defended theſe mountains from time immemorial,—whoſe hearts burn with the moſt ethuſiaſtic loyalty,—whoſe candour, hoſpitality, good ſenſe, and ſtrict morality, in theſe degenerate times, exceed every encomium, and who are daily giving proofs of their heroiſm that challenge the applauſe of the world:—theſe men are driven from their dearly beloved native mountains, and are compelled to ſeek a home on diſtant, perhaps on hoſtile ſhores, at a time when the chief want that our country acknowledges is that of a ſufficient number of ſuch brave ſons to meet its foes. And all this is done, in order to make room for a few ſolitary ſtrangers, who bring themſelves under obligations to pay to their landlord a nominally higher rent for the ſoil, which the changing circumſtances of the country muſt enable them to diſcharge; otherwiſe, from their magnitude,

magnitude, theſe engagements muſt remain unfulfilled. To theſe individuals, hundreds of families, with claims on their landlord, which, to the ear of equity and humanity, would appear irreſiſtible, are, by that landlord, for the ſake of a petty apparent pecuniary advantage, obliged to give way. Yet this advantage, whether real or imaginary, is the only benefit that either the landlord or the country can poſſibly receive, for the ineſtimable and unaſcertained ſacrifices that are thus made. We read with horror of the tyranny of William Rufus, who depopulated a county for ſelfiſh purpoſes, in days of darkneſs and cruelty; but, what is this to the crime of depopulating ten counties, in an age of high civilization, under every aggravating circumſtance, and depriving the kingdom of thoſe ſtamina which conſtitute its greatneſs?

I know, that the old ſyſtem of farming in the Highlands was injurious to the landlord as well as to the tenant, and that the Highlanders were not formerly prone to change their habits; but I am alſo ſatisfied that the old ſyſtem was not only capable of amelioration, and the Highlander as much qualified to reform his habits as any other man, in ſo far as they were really bad; but that the ſyſtem formerly eſtabliſhed, when ameliorated, and the Highlander, when informed and diſciplined, are the only means by which the Highlands can ever be made uſeful to the proprietors and to the country at large; and that the poſition in which theſe were formerly placed, was that which prepared all parties beſt for the exigencies ariſing from the changing circumſtances of the country.

There can, I think, be no doubt, but that ſome new change in the appropriation of lands in the Highlands will ſoon take place. The quantity of ſheep and cattle that can be managed with care and with advantage by one farmer and his retainers, generally natives of a more genial ſoil, begins now to appear much ſmaller than calculators expected. Beſides this, the advantage of joining the culture of potatoes, turnips and other roots, to the breeding ſyſtem, and the opportunities which many improveable, but now neglected ſpots, afford of doing this, with a profitable rotation of peas, oats, barley and graſs, are now become more manifeſt, and will tend ſtill more to diminiſh the ſize of farms, and alſo to make a conſiderable addition of hands neceſſary for the country, provided, however, that the courſe of improvement is not already arreſted. When the Highlanders have been expelled, whence will this want of hands be ſupplied? Will Lowlanders, or Iriſhmen, leave eaſy and productive employments in a flouriſhing country ſuited to their habits, and travel over ſome hundred miles of rude diſtricts for work, where they muſt ſubmit to hardſhips

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and privations that are intolerable to them. Would they do all this for the ſcanty recompenſe that the Highlander would accept of for his labour? Would they, after all, be ſufficiently robuſt for the hardſhips that behoved to be impoſed on them? Such expectations as theſe are altogether chimerical. Either there muſt be no further improvement in the Highlands, after the ancient race have left it, or a vaſt expenſe muſt be incurred by the landlord, before theſe improvements can be effected, in preparing accommodations and conveniences for his expected aſſiſtants. Theſe expenſes would ſoon be found to exceed the whole amount of that *bonus* which he had received from his new incomer; and it might probably happen, after a variety of experiments begun and reiterated, and a great deal of expenſe, that the preſence of the Highlander alone could accompliſh his object.

If this ſtatement is juſt, and for my part I do not ſee how it can be diſputed, it follows, that the landlord, by thus deſerting his brave countrymen, has conducted himſelf not only upon inhumane and contracted, but upon imprudent and erroneous principles.

I know it is ſuppoſed that the natives will ſtill be retained in different parts of the Highlands, in ſufficient numbers to ſupply hands as faſt as improvements in agriculture can take them up. Without diſputing altogether the foundation of this oblique policy, which admits ſo far the impropriety of its own plans, and implies alſo an admiſſion that the progreſs of improvement muſt now be much retarded, I would juſt remark, that its advantages muſt not be overrated. From what we now know of the diſpoſitions of all deſcriptions of tradespeople and labourers, we muſt lay our account with this,—that a competition amongſt employers for a ſupply of hands, not only will raiſe wages to the higheſt pitch, but will actually prevent coarſe and diſagreeable work from being duly executed. That reſpectful deference to a ſuperior, and that *amor patriæ* which has effected apparent impoſſibilities, are not to be purchaſed with money or indulgence.

It muſt be acknowledged, that the employment which the Highlander receives at preſent in the formation of the Caledonian Canal, leſſens, in a conſiderable degree, the amount of his hardſhips. The numerous public and private operations ſuited to his habits, that are going forward in the ſouth country, do the ſame thing. Theſe all give bread and employment to the induſtrious, while the army and navy are open to the diſſolute; by theſe means, too, the Highlander is drilled into the common hackneyed habits of induſtry, and made a ſyſtematic as well as an expert workman. This, however, is the whole amount of the

advantage

advantage obtained; and it is very limited in its effects. The Highlander, expatriated, sinks in his spirits; and soon, often too soon, sinks also in his morals and principles. Society, in after ages, may in vain seek for those heroic qualities which at one time filled every cabin in the Highlands.

Here I cannot help adverting to the Caledonian Canal. It is unquestionably an undertaking that does the highest honour to the nation; and I have no doubt, if God Almighty shall continue to bless this nation with prosperity, or in case it should be his will that we should be involved in a war with Russia and the Northern Powers, this canal will be found to be of the highest advantage to the country,—provided however, that the undertaking, with all its appendages, are absolutely completed. If these are left imperfect in any respect, it will afford a striking proof of the feebleness of our public spirit. There are so many wealthy and highly respectable men concerned in the management of it, that I hope there is little danger of any such misfortune.

I sincerely wish the completion of the Crinan Canal were adopted as a part of this canal project. The Crinan Canal will, to a certainty, become an object of importance, as soon as the Caledonian Canal is finished. And although it may not come up to the expectations that it at first raised, I am satisfied, that as soon as the Caledonian canal shall be set agoing, and certain improvements already begun in that quarter are completed, it would immediately pay much more than the interest of the money requisite for its completion.

I fear however, that, in a local point of view, even the Caledonian canal will scarcely produce the advantages that are expected to result from it. It will, no doubt, animate the industry of the country, in places contiguous to its line; but it will not of itself create a trade, or furnish the means of supporting one; it will not, I think, prevent the Highlander from emigrating, as things stand at present. If the Highlander were settled in any small farm, or petty business, or had some small property, he might invest his savings in them; but as his mind has a different bias from that of another labourer, I apprehend that his savings would go to a fund destined to transport himself to America, and that his present employment will inure and reconcile him to that kind of work which is so useful and necessary in America.

These operations have effected one very important object; they have exhibited the character of the Highlander, as a man of sheer industry, and they have furnished sufficient proofs that he is neither necessarily lazy, nor unable to suit himself to the circumstances that his lot prescribes. His landlords may now be satisfied,

fied, that if they had frankly given him what the Irish la
ers long since gave to their mutinous vassals,—a favoura
a long lease of a farm of a small extent; he would lo
have introduced into his little possession the various impro
that he could pick up in the course of his peregrinations, i
as they suited his own farm; and have levied, by his ind
other quarters, the means of effecting his improvement
in all probability, have been able to make such offers to t
lord for the lease of other property, as would have exce
competitors. Upon such subjects, however, I shall no
any longer. My object being merely to point out the mea
in the present circumstances of the Highlands, are most
restore it to that degree of prosperity and consequence, v
the usual course of national improvement, might, if the
had acted upon liberal principles with regard to his tenan
by this time pervaded the country.

If it is intended that the Highlanders should be prese
the use of their country, something much more effectu
any thing heretofore attempted, must be done. We kno
character and their circumstances; we know also their
value as these are connected together. Let us see whe
cannot preserve these advantages, and improve them b
suitable both to their circumstances and their character.
sire for a kind of personal independence; an ambition fo
tain degree of respect and consequence, simple and natu
steady and becoming their sphere; attached not only t
selves individually, and to their families, but to their
their situation and connexions:—these are feelings which
minate in the character of the Highlander. Although
acquiring money, laborious, patient and persevering in
try, and more capable of submitting to personal privatio
any other man;—his operations are desultory; he is averse
restraint which implies a total surrender of his faculti
will of another; and he is apt to make more use of this f
than is consistent with the ordinary routine of labour.
from a careful examination of the character, circumstan
habits of the Highlander, I am satisfied that his proper s
either in that of agriculture, or in some certain kind of w
nected with that or with domestic industry.

Amidst the various ungrateful sensations which the
situation of the Highlands impressed on my mind, one st
of pleasure and of hope darted across it, when I saw Mr
improvements in the woollen manufactory at Invernes
kindred spirit displaying itself in different parts of the

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resembling in embryo the vast manufactures of Yorkshire. Machines are set agoing for preparing wool for the spinner; processes for conducting domestic spinning on a large scale are instituted and displayed; woollen stuffs in all their stages of fabrication are bought up by dealers and finishers of goods. In fact, I saw the whole rudiments of a manufacture, by which a most advantageous organization of the Highlands might be constructed, excepting only some parts which presuppose a large acquired capital, and a fixed establishment of all the parts of the process.

The great plenty and cheapness of wool in the Highlands does not at present confer much benefit on the petty half-established manufactures of that country. The large capital, together with the complete establishment of every branch of the process of manufacturing from the raw to the finished article, and the perfect organization of artists and operatives at every department of these manufactures;—these, and their acquired preference at every market, give to the English manufacturer such a decided advantage over the Inverness-shire manufacturer, that the English can afford to come to the Scotch markets for wool, and give a higher price for it than the Scotch themselves can afford to do. But I am satisfied, from a comparison of this case with that of the cotton trade, and other circumstances of too minute a nature to mention, that if domestic woollen manufactures, such as those already noticed, with necessary machinery and facilities were fairly set agoing in the Highlands, so far would the English manufacturer be from attempting to take the Highland wool to England, that the Scotch would be able to meet him at his own markets.

I am thus sanguine with regard to the success of domestic woollen manufactures in the Highlands, because the advantages which the Inverness-shire manufacturer possesses are of the most radical kind. Such industry may be said to be that of all others which is peculiarly adapted to the Highlander. It infers a kind of independence which it habituates to very severe industry and application. It favours his desire of acquiring wealth by economy and parsimony; and it leaves a scope for desultory relaxation, for contrivance, and for a display of consequence and ability. And as a Highland family can live much more frugally than any other, so they can bring their industry to the market on lower terms than any other. The assistance derived from the progressive amelioration of their process by means of machinery and other instruments which they would be able successively to purchase, would stimulate their utmost exertions. The latitude of either extending one branch, or joining collateral branches of the

manufacture

manufacture with it, would give scope to the different genius and inclinations of the same family; while the gradual advance ment of their wealth and respectability would keep them in th sphere in society that befitted them. The sulphuric impregn tions of the Ness, and the pure air and limpid streams of t Highlands are important advantages. But that advantage whi of all others appears to me to be the most valuable, is this.— Scotland, particularly in the north of it, we are accustomed make all our fabrics of a quality really and truly equal to wh we avouch them to be; whereas, the English, in their mutu competition for cheapness and for fineness, have fallen into t habit of deteriorating the intrinsic value of their stuffs. This a matter that is soon discovered, and soon operates in favour the steady dealer. It is perhaps chiefly on account of this, th the woollen cloth manufacture of Galashiels, and the woolle stocking manufactures of Hawick, have become so flourishin amidst several disadvantages. To similar causes, the preferen and superior valuation given to Inverness cotton bagging, is ow ing. I may also add, that it was chiefly on account of a stri attention to this, that a brother of mine, Mr James Laurie, Glasgow, not only made his own fortune, but led the way to th immense demand for Scotch muslins all over the German, Ru sian, and Turkish empires, that in effect doubled the trade Glasgow. Indeed, in this particular I would like to find that a our Scotch manufacturers rested their claims for preference in t general market.

As Providence has, to a certain degree, prepared the way fo the introduction of woollen manufactures and domestic industry by the numerous petty establishments of this sort all over th Highlands; and as I consider these woollen and domestic ma nufactures to be the principal means for remedying the evil aforementioned,—that is, the expulsion of so many brave High landers from their farms, and the desolate condition of the High lands; I shall proceed to state, with as much precision and brevit as I can, those remarks that I made regarding the method for ac complishing these ends, so as to comprehend the whole countr in my plan. And as I consider the exertions of individuals, o great influence and extensive property, to be in reality more be neficial to a country than those that are made either by govern ment or associations, inasmuch as the former, from the deep con cern of the individual in the business, pervade every departmen of an undertaking from its commencement to its final issue whereas the latter can only affect general objects, and may turn out to be useless if a spirit corresponding to them does not at th

same time pervade the country; so I would be understood as addressing myself to each individual landlord, as well as to the great body of northern proprietors, and as calling upon him to show an example, as well as to add his personal weight to the plan that I propose, even although his conduct should be singular. Being unprepared to give even the sketch of a plan, I must request, in all cases of difficulty, that a reference be made to the kindred establishments in the upper part of Yorkshire, the North of England, and South of Scotland; premising, however, that the views which I hold up of their applicability to the circumstances referred to, are so conformable to every advice I have been able to obtain, that I hope they will not be thrown aside on light grounds.

1*st*, As every mode of saving an outlay of capital, and of giving encouragement to an undertaker in these manufactures is proper, it would be incumbent on every landholder, on whose property any erections were to be made, to give the ground upon the most reasonable conditions;—to convert these into an annual feu-duty, without any other burden;—to lend as much upon the buildings as they can bear, in order to aid the undertaking;—to use his influence amongst his vassals and dependants, in every instance where this can be of service to the business;—in all public measures, as well as in all private transactions, to regard it, and to provide for its interests, in the same way as if the business were entirely his own;—in fine, to conduct himself in every respect, both with regard to any erection of machinery, and with regard to any establishment and organization that the plan may lead to, in matters wherein he is principally concerned, whether the main or immediate advantage of these erections and establishments be his own or that of any contiguous or rival proprietor, as he would, if some corn-mill, or highly necessary article for agriculture, were added to his district.

2*d*, As all people who have an interest in the North of Scotland, either as proprietors, men of business, or as having connexions that are such, must regard this extensive plan as laid in some measure under their care; and as many of them, and of people whose hearts are attached to so noble an undertaking, may have it in their power, directly or indirectly, to contribute to the plan, so these ought to consider it as incumbent on them to watch every opportunity for procuring to these undertakings even the most minute advantage; particularly, if it suits them, or any of their connexions, they ought to embark in, and devote themselves to this business; and whether they do this or not, they ought to gather information as to particulars for the benefit

benefit of it,—such as the best fabrics,—the best mode of finis ing and delivering each species of goods,—the proper markets f all articles which the circumstances of Scotland enable it to pr duce upon peculiarly favourable terms,—and the best way of o taining an equal footing in these markets; and, as far as th can, they ought also to furnish introductions and other means f carrying these informations into effect. It is also to be hoped a expected, that all who have opportunities of so doing, will co tribute assistance in the process or improvement of the man facturing information respecting these, and take a hearty intere in their success.

3d, To people in more independent circumstances, it may necessary to suggest, that as long a credit as possible from t wool merchant; the establishment of banks, who will alwa discount freely, at short dates, to respectable, though petty m nufacturers, and liberally, at more lengthened dates, to substa tial and undubitable houses; the erection of cloth halls on t principle of those at Leeds, Huddersfield, &c.; the introdu tion and establishment of dependent, connected, and collate branches of manufactures, or industry or commerce, are circumstances highly necessary to the welfare of such est blishments. It may be proper to suggest, that such things these would afford the highest, and sometimes the most d cisive advantages, in the establishment of any such plan that proposed. Taking it for granted, that all concerned a ready to do their duty, every thing respecting these poir may be easily learnt, and may also, of course, be effectual provided for. As a reference can at all times be made the corresponding manufactures already established in the sout ern part of the country, I readily quit this part of the su ject, and proceed to point out the manner in which I wou apply these woollen manufactures to the improvement of t Highlands, and to the amelioration of the existing circumstanc of the Highlanders. I take, as my special objects of regar those Highlanders whom it may be presumed are industriou and such as have families, all disposed to regular peacef industry.

My propoſal is, that each landlord ſhould begin with remed ing the injury that he does to the Highlander in expelling hi from his farm, by granting to him, in perpetuity, a piece of grou fufficient to raiſe all the vegetables that his family and a cow m require, not exceeding, however, an acre; and alſo a few acr of moor land, or ſome ſuch ground, that is barely improveab and not very diſtant nor out of the way, upon condition of r

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ceiving from him the amount of its rental by way of a feu-duty or perpetual ground-annual; but perfectly free of every other burden whatever, except thoſe which the government or community may afterwards lay upon it; and, beſides this, give him the uſe of ſome hovel or cottage, until the tenant build on his feudal property a houſe of his own. I have myſelf, everywhere all over the Highlands, ſeen ſuch a multitude of places capable of this appropriation, that I have no heſitation in ſaying, that there muſt be few eſtates wherein a ſufficient number of feadings for the above purpoſe cannot be found, without in any degree affecting the preſent mode of appropriating the Highlands. In all caſes where it could be done, I would give a breadth of perhaps 100 feet to a high road, and throw the whole extent of the feu behind; but in ſuch an irregular country as the Highlands, this can ſeldom be effected.

The improvement of a ſpot that was now abſolutely his own, would ſtimulate the induſtry of the Highlander and his family. They would be inceſſantly employed, either upon the property itſelf, or in labouring, in order to obtain means for bringing their ſpot into its higheſt uſe. And as they would, by their induſtry and the aſſiſtance of friends, ſoon be able to rear a houſe on their own property, the landlord's rent would become ſecured without further trouble; every additional improvement would add to its ſecurity; and he might calculate upon its regular payment at all times.

Independent of the woollen trade, the caſual employment, and the common induſtry of a family, it appears to me, that any laborious man might continue to improve the ſoil of any of the above ſmall ſpots, ſo as to make it produce a variety of things that are at preſent conſidered as exotic,—ſeeds, ſeedlings, certain fruits, &c.; and where a family are thus domeſtically brought up to induſtry, I do not think that, in general, they would find much more difficulty in making the moor land produce graſs or ſome valuable crop, than they would in clearing the woods of America, even admitting that it was neceſſary to labour it inceſſantly with the ſpade, or cover it with a new ſurface or ſoil.

No ſooner, however, would this family embark in a domeſtic manufactory, than wealth would flow into their hands. The education of ſuch a family would leave no doubt as to their induſtry, while their main object would be, to perfect their manufacturing proceſs. Their ſpare time, and their relaxation, would be devoted to the ſpade and the hoe; a courſe of life that would correct the tendency of both occupations to injure the conſtitution and the mental vigour, and confirm their former good habits. Each improvement of the family ſpot would render it more dear to

them; and as they would, by their manufactures and other induſtry, levy contributions from the moſt diſtant countries for paying their rent, their ſubſiſtence and their improvements, the petty feudal property would reſemble a mine which produced to its country wealth, labour, and heroic bravery, and alſo that beauty and pleaſure which rural improvement affords.

Thus, not only would the Highlander be provided for—his deſire of emigration be extinguiſhed—his *amor patriæ* be kept in its full glow,—but he and his family would be educated and retained in that ſituation, wherein their general virtues would be exerciſed and promoted, and the benefits reſulting from them ſecured to their country. Not only ſo, but he and his family would be advanced in ſociety, and in every acquirement, in a ratio at leaſt correſponding to that of the reſt of his countrymen. If any of his family acquired property in a diſtant quarter, the family ſpot would be benefited by it. If others of them choſe to remain at home, and take their chance of the growing improvement of the country, the landlord would find a new opportunity of adding to his perpetually ſecured revenue; or the family ſpot might afford a corner to them. Thus, while the whole favourite paſſions of a Highlander would find their proper objects of gratification, their country would be benefited by their development,—his deſire of reſpect and conſequence, independence, economy and induſtry,—his domeſtic and patriotic propenſities, would all unfold themſelves, and enable him to ſend out into ſociety his ſeveral ſhoots with habits and with ſpirits not unworthy of their ancient name.

I know that the induſtry and labour requiſite for creating a ſoil out of a deſert, and for raiſing exotic plants in a hyperborean region, might create much greater wealth, if diſplayed in ſome other quarters; but I know alſo, that this greater wealth, like the bubble formed upon the ſurface of the ocean, has no permanency. It muſt be realized in a ſolid form on the face of the country, before it is truly valuable; whereas, this unſightly maſs of unwieldy improvement, like our flinty rocks, will beat off theſe bubbles that daſh upon their ſides;—they will defend our liberties, and ſecure our independence. Let imagination ſurvey the improvement that this new ſyſtem would introduce into the Highlands. In place of a barren depopulated deſert, with only a few hinds, the deputies of ſome wealthy ſheep-dealer, tending a parcel of half-ſtarved goats and ſheep, we would ſee the grand romantic ſcenery of the Highlands, at every little interval, enlivened with a ſcenery, which, from contraſt, would appear paradiſiacal, and teeming with a briſk and happy race of patriots, who were employed in active and productive induſtry. In place of expelling our heroes from their an-

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cient hills, and conſigning them indiſcriminately to ſituations, where wickedneſs, diſeaſe and degradation await them, we would preſerve them to their country virtuous and happy. For my own part, ſo fully ſatisfied am I, that this mode of allotting portions of feudal property to the Highlander, would, in a very ſhort time, produce theſe effects, and put him into circumſtances that would enable him, by his induſtry, to lay the reſt of the kingdom under a gentle kind of neceſſity to furniſh him with means to improve the mountains of Scotland,—and alſo, that theſe domeſtic woollen manufactures are the moſt important means for enabling him ſo to do; that I look upon it as a neceſſary conſequence, that if the landlord were frankly to accord them this feudal property under the moſt favourable circumſtances that he poſſibly could, and to take a full intereſt in the eſtabliſhment of the woollen manufactures, that, in a very ſhort ſpace of time, the whole Highlands would be filled with theſe eſtabliſhments, organized ſo as to inſure their ſupport and continuance, and replete with the wealth and improvements that would everywhere flow from them; ſo as to preſent to the mind of a ſtranger the ſenſations of a peculiar paradiſe, and be at leaſt one hundred times more valuable than it is at preſent; every former ſpecies of induſtry,—the linen manufactory,—the fiſheries, &c. being, as a matter of courſe, advanced and increaſed. If I were a great Highland proprietor, ſooner than allow my ſcheme to be retarded, I would begin with laying off my pleaſure ground for theſe petty feudal ſettlements, and unheſitatingly conſign my parks and policies for their ſelect morſels of ground. I would, indeed, by ſuch conduct, incumber my heirs with an expenſe and a trouble that might have been avoided; I would furniſh them with a great field for diſplaying their wealth, and exhibiting their taſte in creating new policies and encloſure grounds; but, on the other hand, I would leave them an eſtate *ſecured*, *bleſſed*, and *proſperous*.

To the landlord, this ſyſtem would preſent certain ſingular advantages. It would not only repair the evils he muſt now encounter from depopulation,—ſupplying him with abundance of good hands for carrying on his agricultural improvements, all intereſted in his welfare,—with numerous competitors for his farms, all intereſted in improving them to the utmoſt, and placed in ſituations that enabled them to do this with the best effect; but alſo introduce a ſyſtem of improvement into his property,—create a ſource of ſupply for all the wants of his own domeſtic eſtabliſhment,—and provide for it a moſt invaluable ſecurity; no pledge being more valuable, than that eſtimation which a ſuperior and his contiguous vaſſals ſhould hold of his character, to a man thus fixt and eſtabliſhed; the influence which, as ſuperior, he

held over his feuholder, and as proprietor of so much contigu
property, which might in various regular shapes benefit the p
feuholder, being unquestionably secured, not merely upon the
hold, but upon the feuholder and his dependants. This, in
opinion, is a kind of superiority that is extremely desireable,
as much as any superior could ever have an interest in exer
ing, whatever his deputies might desire to have; it is indeec
much as any good man can wish to possess over another; and
my opinion, the feuholder would find his petty property n
secure under the guardianship of a powerful superior thus
tuated, than if it was a freehold. I once conferred with a H
land freeholder, of great property, who had in some mea
realized these happy visions to his imagination; and sorry I
to say, that although he was very old, and had no lawful c
dren, he fell to devise one expedient after another in orde
curtail the advantages of his poor vassal, and to bring the w
fruits of his industry into the hands of his family, in some
venty, or one hundred years hence. He could not reconcile
mind to the idea of coming frankly forward, and giving,
complete and manly manner, the full advantages requisite. S
people ought to know, that the object to be desired cannot
obtained by any thing short of the terms that I have prescrit
that if it is obtained, it will ameliorate their property ten ti
more than any other deviseable mode, and make the whole H
lands at least one hundred times more valuable than they ar
present; and that if it is not obtained, their whole prop
must fall in price. The difficulty of parting with select s
of ground, may in part be obviated by laying down a ger
plan; but this, and the inconvenience of collecting small r
and having so many petty retainers, together with the troubl
tending the general management, must be obviated by a f
and candid deportment. This will easily be accompanied, w
necessary, with cheerfulness, from the reflection of the n
and benefits that result therefrom.

I think I can appeal to yourself, who have seen nume
townships, where cottages were crumbling away, and tract
highly valuable ground negligently mixed with moor land
tures, wherein thousands of people, without any hardship t
sheep-farming system, might have been accommodated in
very way that I prescribe. The only want is the mean
drawing a constant supply of wealth from other quarters.
can be done by domestic industry; and domestic industry w
be supplied, if the woollen manufactory were established an
ganized. And as I propose to complete this bond of union
prosperity to the Highlands, without in any way traversing
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interrupting or retarding the linen manufactory, the fisheries, or any kind of agricultural or local improvement, I shall next advert to the capital necessary for the proposed object, and to the markets that would be required for the consumption of its productions.

When I had discovered the burdensome and prolix process by which the capitals of the manufacturers of linen, osnaburg, &c. were returned to the country, I at first imagined that it was overburdened with capital. Immense piles of building, occupying a considerable extent of valuable ground, and inferring an expense out of all proportion to the value of the article produced, are necessary before the work can be set a-going. Vessels, generally in ballast, are sent to the Baltic, with cash, for the purpose of bringing home the raw material. By the bulk of the article, in proportion to its value, and the operose process of manufacturing it, money continues to be sunk in the business at no ordinary rate; and when the finished goods are obtained, they are sent southwards, to a commission-house, who may be a considerable time in procuring a merchant. At last a foreign market is obtained, and thirteen months credit given to the purchaser, who pockets all the bounties that Government has provided for the encouragement of this manufacture. A series of investment of capital, in a business so little adapted for defraying its expense as this linen manufactory is, is not perhaps easily to be found. I have not the smallest desire to interrupt its operations, because I know that it augments the prosperity of the counties in which it is established, and because, whenever a manufactory is so completely established as this is, a variety of divisions and subdivisions of every department of industry makes the comparative advance of capital, which falls upon each individual, trifling. But I cannot avoid comparing it with the woollen manufactory. In it the raw material is lying amongst our hands, and can easily be obtained at a reasonable credit; the process of manufacturing is comparatively cheap and simple; and the chief part of the value of the manufactured article is constituted of domestic labour that would otherwise be lost, and which, therefore, is seldom paid off, until the article be in a marketable or consumable condition. During the whole process, bills at discountable dates can be put in such circulation as to relieve the manufacturer from a great part of the advance; while every accommodation and facility that can attend any manufacture is also provided, by its contiguity to the manufactures of the South. Not only has it an almost unbounded market at home, but provision is made for its special interest in every commercial treaty that is made by Great Britain with foreign powers. In Portugal, Turkey, Rus-

sia, America, as well as in the East and West Indies, its market is established, and a consumption of its productions rendered certain; so much so, that it is calculated that the amount of finished goods which it produces is not less than 14 millions Sterling *per annum*. I believe I am correct, though not quite certain.

The fact is, that in Scotland we have hitherto been asleep as to our local interest. It is only when we have been drawn forward by some extraordinary effort, either of the Government or of public-spirited individuals, that we have exhibited our character or our peculiar advantages. But we may safely infer, from our patience and perseverance in the linen trade, that whenever we shall be aroused, and experience the advantages of the woollen manufactory, we will cling to it with all that ardour which its importance deserves. It is by far the most advantageous trade carried on by Great Britain, whether we consider its amount, or the benefits which every county wherein it is established have actually derived from it. It is one to which our Highlands are peculiarly adapted. Were but the tithe of the trade carried on in Yorkshire transplanted to the Highlands, that county could no longer boast that it contained twice the amount of the wealth of Scotland. I should even hope, that our Highlands and Islands might themselves vie with it both in riches and population, and even in beauty. I have heard some respectable old landholders near Glasgow say, that many hills which now produce good crops of wheat, were once no better than the Highland mountains; and I am persuaded, that neither the climate nor soil would consign one half of our Highland mountains to their sterile appearance, if industry and wealth were fairly planted in the midst of them.

When lately in Inverneſs, I mentioned to Mr Fraſer, that I imagined the ſureſt way of eſtabliſhing his manufactures, would be to find out ſome leading article ſuited to ſome foreign market, availing himſelf always, however, of tranſient buſineſs as it occurred: This not only induces a claſs of purchaſers to give us a decided preference; but it creates improvements and peculiar advantages to the manufacturer. The Ruſſian and Baltic trade, where ſo much of our money goes, ſeem to preſent themſelves; and although, perhaps, ſome loſs might at firſt happen, it would be a matter of prudence to riſk a variety of little adventures, in order to aſcertain the fabrics that ſuited that trade. But it appears to me that the Turkiſh and Portuguese trades would ſuit our Scotch manufactures beſt. Goods, of a fabric betwixt woollen and worſted of a good texture, but thin, are juſt the kind that our Scotch wool could beſt manufacture; and theſe are the principal articles in demand there, particularly in the Levant trade. The American and

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Weſt India markets are generally glutted: but, even there, our long-ells and camblets are preferable to the Engliſh. It is very certain, that the Eaſt India Company buy a conſiderable quantity of cloth, that the Scotch manufactures might produce. But if any quantity of orders, of ſome general deſcription, could be obtained from any quarter whatever, ſo as to ſet the Scotch manufactures fairly agoing, we might be at eaſe with regard to their future fate. A complete beginning, like the firſt impetus which our monopoly of the American trade gave to the induſtry of Great Britain, would eſtabliſh theſe manufactures beyond the danger of any common contingency, and enable thoſe concerned in them to traverſe every acceſſible market without difficulty. Individuals might be unfortunate in buſineſs; bankruptcies might ſucceed each other in quick rotation: but the eſtabliſhment of machinery and of commercial objects; the organization of every deſcription of work and workmen, and the improvements already ſet agoing in the country, would remain: new demands would ſucceed, after every interruption of induſtry. The whole would invite freſh capitaliſts or new adventurers from every quarter; and the machine of commerce, invigorated from its ſhort ceſſation, would move with redoubled celerity and effect. In Glaſgow, ſome of their bankruptcies have actually done general good, by dividing the monopolized parts of commerce amongſt the community, and diffuſing its benefits. For it is not the accumulation of wealth, but its general circulation and diffuſion, by means of induſtry, that benefits ſociety.

It is much to be regretted, that the port of London, and one or two aſſociations of merchants, ſhould monopolize all the advantages that the country can derive from its trade to the Eaſt Indies, North-weſt America, &c. If theſe trades were thrown open, and every individual, as well as every port of the United kingdoms, were allowed to partake of them, I am ſatisfied, that the real wealth of the kingdom, and perhaps its inhabitants, might ſoon be doubled in amount. It is a very unfair way of calculating the advantages of a trade, to ſtate its amount, and to require a counter-ſtatement of the amount to which it could be raiſed, by throwing it open. We want the *data* for this counter-ſtatement, becauſe we do not know the amount to which our trade, to unexplored markets, could be raiſed; and we want the means of appreciating the induſtry that we could raiſe upon the objects that we could procure from thence. Theſe, in all probability, however, would double the whole amount of the preſent trade; which alſo might be made much more productive of real wealth to the country, than it really is at preſent. One thing we know aſſuredly;—the Americans reckon this their principal trade, both for profit and for national advantage. They ſend out a petty cargo, chiefly drawn from the

manufactures of Great Britain, and ſtores for a voyage; and, at the diſtance of two years, generally receive returns of 200 or 300 *per cent.* of the outfit. And it is well known, that beſides the advantage which a nearer approximation to the ſeat of this trade, and our eſtabliſhed maritime ſuperiority and ſupremacy in theſe parts, give us, that the materials for every ſuch voyage, and the price of our labour, are leſs, by at leaſt one half, than the Americans can ſupply with. Beſides this, the path of commerce in the Pacific and Eaſtern ocean is every where productive of mines of wealth, that have not yet been touched upon. Under the London monopoly, theſe advantages are never thought of. Nine-tenths of Britiſh ſubjects think only of the Eaſt India trade as a method for ſupplying them with tea, &c. for which they find themſelves drained of money: but every other effect produced by it, is unknown and unfelt.

It has been, I believe, aſcertained, that the commerce that is forced into the Thames, not only has ceaſed to add to the proſperity of the river, and induced an expenſe of near 10 *per cent.* on all foreign buſineſs that is tranſacted there, including commiſſion, dues, ſpoliage, &c. but that it even diverts the principal advantage of trade—the circulation of wealth—by the excitement of appendant and connected induſtry into foreign, and even into hoſtile countries. From the example that America holds up to our government, we ſhould hope for a different train of proceeding.

I am led to believe, from information and calculation, that the diſtrict of Scotland, to the north of the Tay, conſumes annually above 500,000l. of Eaſt India commodities, all which being caſh articles, are paid within four months after delivery. If this money were ſent by Inverneſs to the Eaſt Indies for its own commodities, the capital would be returned to them in a ſhorter time than their linen trade returns it. But as there is always, perhaps, a greater ſum due by India to gentlemen having an intereſt within that diſtrict than this ſum; and as it may be preſumed, that thoſe having connexions in India, may avail themſelves of thoſe connexions, ſo as to have the uſe of that capital in China, which is due to them in India; and, alſo, as it may be preſumed, that ſuch gentlemen might ſee it to be their intereſt and their duty to embark in the trade of ſupplying Inverneſs directly with its articles for conſumption from its own port; we might hope that at leaſt this amount of trade would be created in favour of the port of Inverneſs. The canal furniſhing it with an avenue, either by the north, weſt, or eaſt; ſhe would poſſeſs not only the advantage of carrying on her trade in all weathers, and in all times, in war and in peace, but alſo have a chance of ſupplying other diſtricts from that ſource which ſhe would thus be enabled to create. Adding to this, the chance

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of diſpoſing of her manufactures, and of embarking in new trades, or thoſe akin to that of the Americans; and the great *momentum* which all the appendant, connected, and conſequent branches of induſtry, would receive from theſe trades; I ſay, taking in theſe chances into the progreſſion of domeſtic induſtry already ſet agoing, or about to be eſtabliſhed, in the Highlands; I think there is ſuch a proſpect of advantage held up to the Northern proprietors, as calls for their moſt particular attention.

If to all theſe advantages you add the inducement which the holding of the wealth at preſent abſorbed in London, will receive, to migrate over the face of the country; not only from the peculiar advantages of the port of Inverneſs, but from the improved ſtate of the country connected with it, and the objects prepared for giving an advantageous employment to their capital; you cannot ſuppoſe that the begun improvements would not receive their full completion. Eſtabliſhments and organizations made in Scotland, are not eaſily removed: the conſequence might be, that Inverneſs, like Glaſgow and Edinburgh, might not only receive back many of her expatriated and adventurous ſons, but might draw to herſelf foreigners. Ports, much more unpromiſing, have accompliſhed this. The interior of the country would in conſequence receive a ſpecies of improvement of another ſort. The Highlands and Iſlands would be improved, leſs from motives of advantage, than from taſte and luxury; and poſſeſſing, as they do, incitements of no ordinary nature, might vie in beauty with the richeſt parts of the kingdom. A ſtrong, ardent imagination, might carry theſe views much farther: but I content myſelf with ſober and moderate calculations; and mean to put no extraordinary weight on that abſolute controul of the commerce of the world which this country enjoys. I ſhall now conclude with ſome general reflections upon the benefits to be derived from realizing all theſe views.

We see that the income tax is a matter of the highest importance to the government: what an addition to its amount would these improvements occasion! We find ourselves tantalized about the revenues brought from India: would not such improvements increase the revenues of our landholders, more than three times the whole amount of that revenue? We are obliged to permit our best fellow subjects to emigrate, when they might, by staying at home, double their numbers every second generation: how praiseworthy would it be, not only to retain this mine of unappreciated value, but to raise their condition in society, to give honest magnanimity and patriotism a field to expand itself in, and to prepare objects for the exercise of those heroic qualities! We are at present under apprehensions lest these bulwarks of our island,

its lofty mountains, should become the seat of desolation: would it not be a noble achievement to convert them into a kind of paradise? In case of a war with Russia, or the Northern Powers, in concert with our other enemies, those parts of the Highlands, which are the most exposed part of our territory to the inroads of these Northern hordes, would be possessed by a race of men, who would present such a front to their invaders, that Britain, without dismay, might attend to her other concerns, and leave these bulwarks to the charge of her robust sons. Are any exertions too great, to acquire such advantages?—are any sacrifices too considerable, to secure them?

Thus, not only that supreme regard which all men ought to display towards society, to their brethren as christians, and to their fellow-subjects, and their common country as Britons, is interested in this matter. But the power, the energy, the resources of the country are at stake. The claims which their family, and their immediate dependants have upon the landed interest, call upon them, with peculiar earnestness, to attend to such important concerns. Will the noblemen and gentlemen of the North of Scotland, be deaf to such claims? Will the descendants of those warriors, who have withstood the career of all the great conquerors that the world has hitherto produced, be afraid to urge the rights of their country, when assailed by the Aldermen of London? No! the present danger of the country; the unjust presumption of these monopolists; the honour and dignity of christian fathers and masters; and the deep distress and misery of their unhappy countrymen, call loudly and effectually for their highest, their regular, yet firm, exertions in their behalf; and, it is hoped, they shall no longer call in vain.

To conclude, it is time for the Government of this country to give us other proofs of our greatness, besides the extent of our burdens, and the splendour of our achievements,—the proofs that arise from universal prosperity. It is time too for the Highland Chieftains to give their dependants real proofs of their regard, and to augment the value of their properties, by magnanimous and meritorious methods alone. This they can achieve, by *retaining those vassals, which the feudal system gave them, according to the pure principles of the mercantile system, tempered as it is by humanity, and enlightened by Christianity.* And, by other means than these, *they never can achieve their purpose.* By these means alone, they will become independent of the bounty of Parliament, and find themselves placed in circumstances that shall enable them to ground their claims on a more honourable basis.—I remain, Sir, with great respect, your most obedient servant,

DAVID LAWRIE.

On Board the Stranger, 27th January, 1807.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Plan for removing Tithes, and encouraging Agricultural Improvements.

SIR,

As I have long considered the tithes in England to be by far the most formidable and oppressive obstacle to the progress of improved cultivation in that part of the island, I have often been led to think, whether no plan could be adopted to circumscribe the effect of their baneful operation: and it occurs to me, that by means of an association, a partial relief might be effected. From my limited knowledge of the subject of tithes, I do not pretend to determine whether my idea could be carried into effect. This must be determined by those more intimately acquainted with the subject. But the idea is easily stated:—if it does any good, well; if not, I have the consolation of thinking it can do no harm. All will agree, that, if practicable, England contains abundance of men of spirit and liberality to give it a fair trial.

My plan, then, would be, to form a society or association of men of capital, who are actuated by the patriotic desire of encouraging agricultural improvement, with a joint stock to be subscribed by them, and applied in the purchase of tithes that come to the market, for the purpose of reselling them to the proprietors of the lands from which they are exigible. It is well known that property of this description, to a very considerable amount, is occasionally exposed to sale; and, as the proprietor of the land has a much greater inducement to purchase the tithes affecting it, than any third party can have, the only reason that can be assigned for his not so purchasing, in every instance, is, that the tithes are sold in such lots as to put it out of his power: for it appears, to me at least, that a proprietor of land would not lose any opportunity of freeing his land from such a detestable servitude, if it came at all within the limits of his power. I would therefore propose, that the funds of the society should be directed to the purchase of all tithes which are sold to any other than the proprietor of the ground from which they arise, provided the purchase can be made on reasonable terms: and this should be done with the declared intention of reselling these tithes in lots, exactly corresponding to the division of the landed property, and to the proprietors of such lands only, if they chose to purchase; by which transaction the tithes would be completely neutralized and done away. For the reason above mentioned, it may be supposed that no proprietor would hesitate to purchase, when such

a fair opportunity presented itself; and therefore the society would run little risk of having the purchase long on their hands: or if, in some cases, it should happen otherwise, they would still hold property equal in value to their outlay; which would produce an adequate yearly return, till disposed of.

Many regulations would, of course, be necessary, in the management of such a concern, which it is needless to notice here; and, no doubt, many objections occur: but the question is, whether these could be surmounted. It seems probable, that if the purchases were prudently managed, no loss, but rather profit, would accrue from them: however, the expense and difficulty of management might be considerable; but these would not be greater than those at present borne by other societies for objects of less importance. A committee of a few active gentlemen, zealous for their country's good, could, without much trouble to themselves, superintend the business of the society. Nay, a few spirited gentlemen in a county, or even an individual, imbued with the true spirit of improvement, and with a moderate command of capital, might do all the good that could be done in this way within their own county or district: and, as the necessary local information would be much more in their power than that of a more extensive society, I am not sure but county societies would be the preferable plan of effecting the object in view.

It must readily occur, that this scheme, though completely successful, would only produce a partial and limited relief; for it can only apply to such tithes as are private property; and I would mention it, only as a partial alleviation, till the great and radical cure of a general conversion can be effected. This, or worse, must come at last:—indeed, it is astonishing that such an illegal and impolitic imposition should have remained till now, against both the reason and experience of the present age. Of the absurdity and mischief of any tax upon industry, and more particularly of this tax upon agricultural industry, there can be but one opinion. Indeed, I should doubt the reason of any man who should either support the present system of tithes, or oppose their conversion. All parties are interested in their conversion. The proprietor of land would be infinitely benefited. The proprietor of tithes would suffer no injury, if he received in exchange a full equivalent. But the country would gain most; for the produce of grain would, in consequence, increase one fifth, at least, in a few years. How, then, has our Government permitted this bane of agriculture—this bar to national prosperity, to exist so long? It may be accounted for on the following supposition. Our Government may be of opinion, that there is more misery than happiness in human life. The first consequence of the abolition

lition of tithes, would be an increase of some millions in the population of the island of Great Britain. But there being more misery than happiness in life, the increase of population would only produce a proportional increase of the sum total, or rather of the nett balance of human misery. If Government act upon this system, it must be confessed, that each successive administation adheres to its benevolent principle with the most determined philanthropy.

Yet, what an accession of power and security, would not such an increased population bring to the British empire at this momentous crisis: how would it strengthen our army, our navy, the security of our constitution at home, and of our colonies abroad? The mind sickens to think that resources so ample, so much within our power, should be sacrificed on the altar of state policy, or the political influence of any party. I am, &c.

R. M.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Diseases of Sheep.

SIR,

I BEG leave to recommend to your favourable regard the following memoir, which, I think, deserves the notice of all who have turned their attention to the subject of sheep, whether as a branch of natural history, or as a source of profit and gain to the farmer. I translated it, because, coming originally from a man, whose opinions must be allowed to have great weight in such matters, it might, I conceived, contribute to throw some light upon a subject which demands attention, and which, from two recent publications, appears to be engaging the attention of that patriotic institution, the Highland Society. Scotland is now rapidly advancing in agricultural celebrity; and the free promulgation of enlightened opinions appears, I think, to have been the harbinger of that system of improvement which is becoming daily more visible throughout this interesting country.

The following Essay is entirely practical. M. Daubenton, the author, besides being a celebrated naturalist (successor to Buffon), spent twelve or fourteen years in a sheep country in France, for the purpose of studying more minutely every thing relating to their frame, nature and propensities. It will be found, on perusal, that some of the diseases treated of are analogous to those in this country; consequently, the cures he mentions, must also be of use here; and though others have not yet appeared in Britain, the introduction of foreign breeds may introduce foreign diseases. This we can neither guard too well against, nor be too well prepared for, when it happens.

Should

Should you agree with me in regarding this as an useful production, the insertion of it in your Magazine, will oblige, your most obedient servant,

J. A.

University of Edinburgh, 21. *May*, 1807.

On the suitable Remedies for the most prevalent Diseases of Sheep, read at a Meeting of the Royal Medical Society of Paris. By Professor Daubenton.

In our climate, sheep are not affected by any intemperature of the air, but only by the violent heat of the sun; their wool defends them from the most intense cold. For ten years past, in the northern extremity of Burgundy, I have had flocks exposed to the open air night and day throughout the year. The severe frosts of 1768, and of 1776, had no effect upon them, although the fluid of Rheaumur's thermometer descended to 14 degrees and a half, and to 18 degrees below zero. The heaviest and most long continued rains, the snow with which they were covered, and which served them for their only drink, the icicles formed upon their wool, and which remained suspended from it, caused no disease whatever; but the heat of the sun has been productive of many deaths in the fields; and many more would have fallen victims to it, had not proper precautions been speedily observed.

The disease in sheep, caused by excessive heat, has been denoted by an analogous name, viz. the *Heat*. Those most free in blood, best fed, and most robust, are most frequently subject to this disease of heat. Those attacked by it gasp for breath, foam at the mouth, and bleed at the nose; the eyeball becomes red, the animal droops its head, staggers, and soon falls dead. After death, the eyes, the lower part of the cheeks, the nether jaw, the gorge, the neck, the inside of the gullet and of the nose, are of a mixed colour of red, and somewhat blackish. On opening the animal, we find the blood-vessels swelled in all those parts just mentioned, and in the head. All these symptoms naturally lead us to have recourse to blood-letting, which speedily effects a cure, if administered in time. This remedy, then, is one most necessary for sheep in warm climates, in temperate climates like our own, and also in cold ones, where the sun is powerful in summer.

There is another remedy absolutely necessary to sheep in every country, and in every season; it is a remedy for the *itch*, to which they are more subject than to any other disease. Flocks grazing in pastures most suited to their species, and even to their kind,

kind, are not exempt from it. Sheep that are best fed, and most vigorous, are liable to it. When the fat humour of the grease grows rancid, it affects the skin, and gives it a disposition to *itch*. If this disease is not stopt on the first appearance, it spoils the wool, and causes it to drop off. If the progress of the distemper be not arrested, the flesh becomes ulcerated, the bones rot, and the death of the animal ensues. A remedy for a disease so frequent, and so dangerous, is still more urgently necessary for sheep than bleeding, because they are oftener afflicted with the itch than with the disease of heat. To record the observations I have made, is the object of the present memoir.

Sheep are bled in different parts of the body, in the forehead, above and below the eyes, in the ear, in the jugular vein, the shoulder, the tail, below the ham, and in the foot.

Before treating of the different kinds of blood-letting, our subject leads us to make some reflections on the treatment of the diseases of sheep. The mode of treatment should be adapted to the proportion of strength in the animal, and to the knowledge possessed by the shepherd in reference to medicine and surgery. A sheep attacked with a tedious diseaſe has little strength; in this case, the remedies administered must be nourishing rather than exhausting. In accidental diseases, which are speedily cured, the sheep loses nothing of its strength, if the remedy be an easy one, and spoils not the wool.

The bleeding of the sheep must be performed quickly. The vessel opened by the operation, must be so large as to give a sufficient quantity of blood, and situated in a part of the body where there is no wool.

I think, that in most of the diseases incident to sheep, it is unnecessary to select that part of the body, where the bleeding may appear to be most favourable. The most skilful of the medical profession are not agreed as to the different effects of bleeding in different parts of the human body, although they have much experience upon the subject. And what would shepherds do, with the feeble light afforded them, upon a subject far from being elucidated by reference to animals? It is better to divest them of a practice, in which they might commit gross mistakes, and which most frequently appears of no utility whatever to the sheep.

But when a disease attacks many flocks, spreads from one district to another, and pervades contagiously many provinces, it is an object of prime importance, and becomes a national affair. In such unfortunate cases, all the resources of medicine are to be employed; an[illegible], amongst others, those of the different bleedings. The ableſt [illegible]dical men should endeavour to discover the cause and

and remedy of a diſorder, menacing the deſtruction of animals uſeful to every nation, to ſuch eſpecially who employ wool in the fineſt manufactures.

Keeping this in view, the Royal Medical Society has eſtabliſhed a correſpondence with ſhepherds for the purpoſe of inſtruction. Members of the Society are ready, in urgent caſes, to direct the ſhepherd in the management of his flocks. My obſervations on the bleeding of ſheep do not extend to rare and complicated caſes. I think, that, in ordinary ones, it is ſufficient that the ſhepherd know how to bleed on one particular part of the body of the ſheep, ſuitable at once as to the ſize of the vein, the facility of operation, and the preſervation of the wool. Having thus premiſed, I proceed to treat of the different bleedings made in various parts of the body of the ſheep.

The veins of the forehead are ſmall, conſequently, give but little blood, and are not ſenſible by the finger. Above and below the eye, or between the two eyes, bleeding is performed only upon the portion of the angular vein, which extends from the cavity of the eyebrow to the upper part of the cheek. Thus, although theſe three bleedings have three deſignations, they may be reduced to one alone, which is made in different parts of one portion of the angular vein, about an inch and a half in length. This bleeding gives ſufficient blood, becauſe the vein is large; but it is difficult to feel it with the finger, although ſwelled; conſequently the riſk is frequently run of miſſing the vein.

The veins of the temples being ſmall, cannot be made to ſwell by preſſure. In moſt kinds of ſheep, the temple is covered with wool; it is therefore difficult to bleed in that part thoſe which have horns. However, I have bled ſeveral in that way, though the blood oozed ſlowly out, and did not flow at all freely.

When blood is taken from the ears, it is by a wound; becauſe the veins are ſo ſmall, that many muſt be opened at once. An inciſion is made in the ear, and a blow under it is given, to cauſe the blood to flow. This is a bad plan; it ſhould be adopted only in the moſt urgent caſes, where it is impoſſible to act better.

Bleeding in the jugular vein, in the ſhoulder, or below the ham, is too difficult for moſt ſhepherds; and here one man alone cannot eaſily operate; beſides, bleeding in the neck or ſhoulder would ſpoil the wool.

On the tail of the ſheep two ſorts of bleedings are made; one on the part devoid of wool, the other at the extremity; the former gives but little blood. To draw blood from the end of the tail, the laſt falſe vertebra, at leaſt, muſt be cut off; this cannot be done with a lancet. The extremity of the tail is cut off; ſo that the veins and the arteries, with the bone, are ſliced; the fleſh is ſtripped up, and leaves the naked bone; a wound remains.

Sheep

Sheep are bled in different parts of the feet; but here only ſmall veins are to be found. Beſides, apprehenſions may reaſonably be entertained, that dirt may frequently intrude into the openings made by theſe bleedings, and thus cauſe inflammation, and collection of humours, which not only bring on lameneſs in the animal, but may extend into the hoofs. Bleeding in this part is alſo attended with inconvenience; it cannot eaſily be performed by one perſon.

I have diſcovered another method of bleeding ſheep, which appears to me preferable to all thoſe at preſent in uſe; becauſe it is not ſubject to any of the inconveniences above mentioned, and is more eaſily executed. This is done at the lower part of the cheek, at the ſpot where the root of the fourth cheek-tooth is ſituated, which is the thickeſt of all; its root is alſo the thickeſt. The ſpace which it occupies, is marked on the external ſurface of the bone of the upper jaw, by a tubercle ſufficiently prominent to be very ſenſible to the finger when the ſkin of the cheek is touched. This tubercle is a very certain index to the diſcovery of the angular vein which paſſes below. The vein extends from the under border of the jaw beneath, near its angle, to below the tubercle, which is ſituated at the root of the fourth cheek-tooth; further on, the vein bends, and extends to the cavity of the eyebrow.

To let blood in the cheek, the ſhepherd begins by placing an open lancet between his teeth; he then puts the ſheep between his legs, and ſqueezes it ſo as to hold it faſt; his left knee is rather more advanced than the right; he places his left hand under the head of the animal, and graſps the under jaw, ſo that his fingers are under the right ſide of that jaw, near its hinder extremity, in order to preſs the angular vein, which paſſes in that place, and to make it ſwell: The ſhepherd then touches, with the other hand, the right cheek of the ſheep, at the ſpot nearly equidiſtant from the eye and the mouth; he there finds the tubercle, which is to guide him; he can alſo feel the angular vein ſwelled below this tubercle; he then takes in his right hand the lancet which he holds in his mouth, and makes the inciſion from below upwards, half an inch in length, below the middle of the projection, which ſerves to guide him.

I do not exaggerate when I ſay, that by this method a blind perſon might bleed a ſheep; becauſe, with one of his fingers he feels the tubercle, which alone directs him in making the inciſion.

Bleeding in the cheek, then, is a method equally ſure and ſimple, ſince the ſituation of the veſſel cannot be miſtaken, whilſt it is ſufficiently large to furniſh a proper quantity of

 blood;

blood; for it receives that of the veins of the forehead, of the eyes, the nose, the upper lip, &c. The blood is there retained by the hand of the shepherd, which serves as a ligature at the angle of the jaw. No risk is run of opening the artery; for I have always found some distance between it and the vein at the place of bleeding. One man is sufficient for the performance of this operation.

All these advantages have determined me to give the preference to this method of bleeding in the cheek, above all others; having made the proper comparisons in practice.

I have now recommended a method of bleeding sheep, more certain, and more easy, than those in present use. It remains for me to point out a remedy for the itch, preferable to those usually employed in this disease.

The itch in sheep makes continual progress; the longer it lasts, the more difficult it is to cure. The shepherd, then, should be extremely attentive to discover its earliest symptoms. He must keep a watchful eye over his flocks, and observe if any sheep scratches himself with his feet or his teeth, or if he rubs himself against the rack, against trees or walls, &c. If the wool is spotted with dirt on those parts of the body which the animal can reach with its feet; if there are tufts of wool pulled out of order, which the sheep has torn with his teeth or scratched with his feet, these signs indicate itchings caused by lice, by the itch, or some other distemper. The shepherd must carefully examine his sheep, by separating the wool in the parts affected, to see if there exist real symptoms of itch.

These are indicated by the skin feeling harder in the scabby parts than in the other parts of the body; it is covered with white scales, with crust, or small pimples, which are at first red and inflamed, and afterwards assume a white or green colour: all these symptoms are followed by an itching. But there is another sort of scab which does not create itching; this quickly spreads under the wool, and, instead of causing it to drop off, makes it turn red, and become stuffed with felt, as if it had been trampled upon.

When these symptoms have been observed, the remedy for this disease must be applied without delay. At the same time, if it is judged that it was caused by fatigue or a state of tenderness; if it has arisen from bad air, or the heat of the house; from want of proper nourishment, or from the naturally bad constitution of the sheep, the original cause of the evil must be removed, because it would stand in the way of the success of the remedy. If the itch proceed from some other disease, regard must be had to both at the same time.

When

When the disease is not inveterate, or ulcerated, it may be cured by topical, without internal remedies. In this disorder, many topical remedies have been employed: it would be tedious and useless to recount all in this memoir: I shall only here mention the principal.

The most customary are, the infusion of tobacco, oil of juniper, solution of green vitriol, of alum or of common salt; the flower of sulphur, grey ointment, &c. All these remedies may cure the itch, but each is attended with great inconvenience. The infusion of tobacco, the oil of juniper, and the solution of salts, do not agree with the state of the scabby skin; they cause its thickness, its dryness and hardness to increase and continue; it is thus hurtful to the growth and good qualities of the wool; besides, the tobacco, and particularly the oil of juniper, give to the wool red and blackish tints, which spoil it; sulphur gives it a bad smell, which remains in the fleece after shearing; the mercury in the grey ointment may give to the shepherd, and the sheep affected, a salivation, to remove which the application of internal remedies may be requisite; besides, to animals destined to be our food, no remedies should be administered which are at all likely to be productive of any bad effect.

After having tried upon my sheep all these remedies, and many more, I found it necessary to discover a better, which should be less expensive, and more easy in the application, communicating no bad quality either to the wool or to the flesh of the animal. A mixture of fat, or suet, with essential oil of turpentine, answered all these conditions. Fat is preferable to suet in winter, because it is more easily spread over the skin of the sheep; but the suet is better in summer, because it is not so soon melted by the heat. The composition is extremely simple.

Melt a pound of suet or of fat; take it off the fire, and mix into the suet, or fat, a fourth of oil of turpentine.

The ointment costs but little; it has no bad effect upon the wool; it softens the skin of the sheep, hardened by the itch, and cures the disease. It may be rendered more active by increasing the dose of oil of turpentine.

It is easy to use it without cutting the wool where the itch is, since it is sufficient to separate the tufts a little, in order to lay open the part affected; then the shepherd scratches the skin with the scratching knife, merely so as to raise the crust, and he applies the ointment, by spreading it over with his finger. Some adhere to the bad custom of scratching the skin of the diseased sheep with a bit of brick, till it is on the point of bleeding; a small wound is thus made, which is an additional evil. I have

provided my shepherds with a single instrument, which is sufficient for all the operations they have to perform on sheep; it is a sort of incision knife, whose point has two edges, and serves as a lancet; the handle terminates in a blade of bone or ivory, which is a scratching knife.

Ellis, one of the best English authors who have written on the treatment of sheep, has given different recipes for the itch, wherein oil of turpentine is mixed with beer, or with a decoction of tobacco, soap, urine, brine, &c.; but I do not think the oil of turpentine has ever yet been employed in the manner in which it is in the ointment I propose, and so as to be suitable to every circumstance. The efficacy of this ointment is proved to me by long experience in my own flocks; I shall now mention only one of the most decisive proofs. A flock of rams and ewes were sent to my sheep-fold last winter, under the most unfavourable circumstances; they had to go two hundred leagues; the ewes were big, the season severe, and the ground covered with snow. As soon as I was informed of the journey, I wrote to stop the further advance of the flock; it was then fifty leagues from the fold; the ewes had dropped on the road; the lambs, and many of their dams, had died; both rams and ewes had lost almost the whole of their wool; they were emaciated, and covered with scab. A perfect cure was speedily effected by the application of the above mentioned ointment. At present they are in excellent condition.

This same flock is estimable for the excellent quality of its fleece. On it are founded my experiments concerning the amelioration of wool. To this, the perfect health of the ewes, and especially of the rams, is absolutely necessary; hence I resolved to inquire with ardour into the means of preserving, and of re-establishing it when disordered.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Salving Sheep.

SIR,

THOSE persons who possess a desire to diffuse knowledge, are generally very soon made sensible how difficult it is to give a wide range to the best and most simple discoveries. Ages have elapsed, from the first invention of those arts, without which, life would be deprived of most of its comforts, before they became generally useful, or before they had received improvements, without which the bare first discovery could confer little benefit upon mankind. So many examples must readily strike

strike those who in the least reflect on this, that it is not necessary to dwell upon the subject. The reasons why inventions of utility are so slow, even in our days, in coming into reputation, may without difficulty be accounted for. The multiplicity of speculators must of course often create deception; and repeated deception must impair confidence. Many lose the benefit of excellent discoveries, either from want of knowledge of the manner in which they should be applied, or of patience in following out those measures which are alone calculated to insure a successful issue. The rooted habits, and the unwillingness to be taught, which prevail so much in the world, may be stated as a great bar to the speedy diffusion of knowledge; and this diffusion of knowledge is not a little impeded by the selfish craft of those who, having found benefit from some useful discovery, resolve to monopolize the advantages, and, by crying down the merits of the very measures they pursue, endeavour to keep others from being as successful as they are themselves.

I am led to these observations by a benefit which I derived from the cure of the scab in sheep, inserted in the Encyclopædia Britannica, under the head *Sheep*, and after the following circumstances.—About a year ago I received a present of a flock of Bakewell ewes, and some of the Merino breed. When these animals came to my farm, they were all more or less scabby; and as I knew of no cure for this disease, being but a young farmer, I took the same mode which had been formerly practised with them, and had them once a fortnight rubbed with a liquor composed of tobacco juice and oil of turpentine. This operation put the sheep to the most agonizing torture, which continued to affect them almost to a degree of convulsion for several hours; and although I continued it for eight months, at the expense of half a guinea a time, I found that the flock, so far from being cured, was daily getting worse. I made every attempt to obtain information upon the subject, through the medium of those persons whom I judged likely to be able to give it; but in vain;—and I was generally informed, that the extreme fatness of the Bakewell sheep was the cause of the scab being with that breed incurable. Before parting with such a valuable flock, which was my intention, I thought of looking for a cure into the Encyclopædia; and I immediately, although the term of Michaelmas was several weeks past, and the weather very rainy and cold, had the flock rubbed according to Sir Joseph Banks's plan. This had an immediate good effect: in four or five days the scab began to rise, and in a very short time came entirely away, leaving the skin quite clean. Since this rubbing, the flock has been perfectly healthy, and I have not the smallest doubt that it will continue

so. The expense of the ointment may be about twenty shillings for threescore; and I certainly never received so much satisfaction for so small a sum. I am very sensible, from my own recollection of English flocks having the blue mark many years back, that this mode is known very generally over England, and I dare say in many parts of Scotland; but I have every reason to believe, from conversations with many sheep-farmers in the Highlands, that it is very far from being either generally practised, or even known as a cure there. I therefore beg a place for it among your liberal pages; because I believe, the great esteem, and general circulation which the Farmer's Magazine possesses, will be most likely to bring it into reputation in the Highlands.

I am, Sir, your constant reader,

24th Dec. 1807. SEVERUS.

Extract from the Encyclopædia Britannica, above referred to.

'But the ſimpleſt and moſt efficacious remedy for this diſeaſe, was communicated to the Society for the Encouragement of Arts, &c. by Sir Joſeph Banks.

'Take one pound of quickſilver, half a pound of Venice turpentine, half a pint of oil of turpentine, and four pounds of hogs-lard; let them be rubbed in a mortar till the quickſilver is thoroughly incorporated with the other ingredients. For the proper mode of doing which, it may be right to take the advice, or even the aſſiſtance of ſome apothecary, or other perſon uſed to make ſuch mixtures.

'The method of uſing the ointment is this: Beginning at the head of the sheep, and proceeding from between the ears, along the back, to the end of the tail, the wool is to be divided in a furrow till the ſkin can be touched; and as the furrow is made, the finger ſlightly dipped in the ointment is to be drawn along the bottom of it, where it will leave a blue ſtain on the ſkin and adjoining wool. From this furrow ſimilar ones muſt be drawn down the ſhoulders and thighs to the legs, as far as they are woolly; and if the animal is much infected, two more ſhould be drawn along each ſide, parallel to that on the back, and one down each ſide, between the fore and hind legs.

'Immediately after being dreſſed, it is uſual to turn the ſheep among other ſtock, without any fear of the infection being communicated; and there is ſcarcely an inſtance of a ſheep ſuffering any injury from the application. In a few days the blotches dry up, the itching ceaſes, and the animal is completely cured. It is generally, however, thought proper not to delay the operation beyond Michaelmas.

'The *hippoboſca ovina*, called in Lincolnſhire Sheep-fagg, an animal well known to all ſhepherds, which lives among the wool, and is hurtful to the thriving of ſheep, both by the pain its bite occaſions, and the blood it ſucks, is deſtroyed by this application, and the wool is not at all injured. Our wool-buyers purchaſe the fleeces on which

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the ſtain of the ointment is viſible, rather in preference to others, from an opinion that the uſe of it having preſerved the animal from being vexed either with the ſcab or ſaggs, the wool is leſs liable to the defects of joints or knots; a fault obſerved to proceed from every ſudden ſtop in the thriving of the animal, either from want of food, or from diſeaſe.

'This mode of curing was brought into that part of Lincolnſhire where my property is ſituated, about twelve years ago, by Mr Stephenſon of Maveham, and is now ſo generally received, that the ſcab, which uſed to be the terror of the farmers, and which frequently deterred the more careful of them from taking the advantage of paſturing their ſheep in the fertile and extenſive commons with which that diſtrict abounds, is no longer regarded with any apprehenſion. By far the moſt of them have their ſtock anointed in autumn, when they return from the common, whether they ſhow any ſymptoms of ſcab or not; and having done ſo, conclude them ſafe for ſome time from either giving or receiving infection. There are people who employ themſelves in the buſineſs, and contract to anoint our large ſheep at 5s. a ſcore, inſuring for that price the ſucceſs of the operation; that is, agreeing, in caſe any of the ſheep break out afreſh, to repeat the operation *gratis*, even ſome months afterwards.'

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Utility of Sheep Houses in Stormy Weather.

——————Oft the whirlwind's wing
Sweeps up the burden of whole wintry plains
At one wide waft; and o'er the hapleſs flocks,
Hid in the hollow of two neighbouring hills,
The billowy tempeſt whelms.

SIR,

I OBSERVE many accounts of the loss of sheep, in the falls and drifts of snow in November last; on which I beg leave to remark, that this could hardly happen, if sheep-farmers were to accommodate their flocks with houses; because sheep, which are even alleged to foresee the approach of a storm, naturally run to those houses for shelter in the tempest, instead of the hollow places they are otherwise obliged to betake themselves to, and in which they are frequently buried among the snow. A. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Ploughing by Moonlight.

SIR,

AMONGST all the inventions and improvements recorded in your valuable Magazine, there is one of a nature so extremely

simple and obvious, that I am not a little surprized at the consideration of its appearing unknown, or at least unpractised, by the cultivators of the country in general. This is nothing more nor less than ploughing by the light of the moon; by the judicious use of which, in any thing of tolerable weather, I conceive that a double yoking may be obtained in the depth of winter, as well as in the advanced periods of spring, or even the middle of summer. This bold opinion may startle many of your readers, some of whom may possibly pronounce him who holds it, under *lunar* influence; but such scruples I maintain to be the effect of prejudice, which holds the understandings of men in base captivity during all ages, and even less or more in the most enlightened epochs.

The idea struck myself one day by chance, as I was walking alone in the fields. I soon afterwards mentioned it to one or two friends, who seemed equally astonished at its novelty and absurdity; notwithstanding of which, I had courage to broach it to my ploughman, and was happy to prevail on him to put the matter to the test. We readily agreed that it would be proper to open the land, or draw the first furrows of the ridges with daylight; and, as it was past the height of the moon, I recommended the mornings for the trial, desiring the man to be yoked by five o'clock, and continue till ten; then rest two hours, and take a second yoking from twelve till four. This makes nine hours ploughing in the day; and, as horses go quicker in winter than summer, they would probably do more work in nine hours of the former season, than in ten of the latter. My man exhibited a laudable degree of anxiety, and commenced the experiment by two successive morning yokings, which he executed much to my satisfaction upon stubble ground, from which I intend so far to transgress the rules of good husbandry, as to take a second crop of oats. Though both mornings were hazy and close, the work was surprizingly good, and the quantity performed exceeded my expectation. Indeed he was yoked by four o'clock instead of five, and the horses went quicker than they were accustomed to do by daylight.

We suspended our proceedings until another moon came to our aid, by which time we had got upon a lea field. We then took two evening yokings, which succeeded wonderfully well; and having thus ascertained the practicability of the plan, beyond the possibility of doubt, I have desisted in the mean time; because I perceive that my tillage will be sufficiently forward, without resorting to any extraordinary modes of exertion.

Since these trials were made, I have learned, accidentally, that moonlight ploughing was once practised in Inverness-shire, but

but as much from the motive of obtaining the light of the sun for amusement, as for business. I claim, however, the merit of originality, inasmuch as I never heard of any such thing until I had reduced it to practice.

My ideas go still further; for I would propose the experiment of lanterns, or lamps, when the moon fails. I have little genius for mechanics, and shall not pretend to describe the best kind or construction of such succours; only, I do not despair of seeing the trial made. My man, who has already proved the moonlight, expresses his willingness to attempt the lamps whenever I please, and gives it as his opinion, that this artificial light should be suspended from an iron rod, fixed on the point of the beam; in which case, I presume the bottom of the lamp, or lantern, ought to be of glass, or some other substance equally transparent as the sides; but, should it not answer to have the light any way attached to either plough or horses, a boy might be employed to carry it along, which would in some measure correspond with the drivers, who are still now and then to be seen guiding a pair of horses in the plough, even at noon-day. This latter expedient is perhaps the only one which can succeed. Supposing such a practice to be generally introduced, what a gratifying and amusing spectacle would it present?

The intemperance and fickleness of the weather during this season, are frequently such as to prevent horses from being employed for whole days together; but, were we to resort to moonlight and artificial light, as I have just suggested, the advantages would be soon felt, and become conspicuous. The weather is often more temperate during the night than during the day; and advantage could be taken of this, without exposing either men or horses to unnecessary hardship and abuse.

We have heard of farm servants being equipped with waterproof coats or waggoners' frocks, whilst some similar covers have been provided for their horses, by which means they can go on through wet and dry. I shall make no allusions here, lest, in an unguarded moment, some piece of humour should escape from my pen, exposing me to some extravagant charge of wicked designs, as happened not long ago with your Wigtonshire reporter; but shall only observe, in general terms, that I doubt the utility and efficacy of these equipments for farm purposes.

Wet ploughing can by no means be commended; on the contrary, it is universally understood to be injurious. Upon extensive corn farms, perhaps a sufficiency of employment may be obtained, by carting out the deposites of the straw-yard, collecting materials for compost, &c. when the ground is in an improper state for the plough; but the occurrence of such interruptions

tions requires, that the greater efforts should be made to forward the operations of the plough, when the soil is in a state to admit thereof. Trusting, therefore, that my new system may find advocates amongst your numerous and intelligent readers, I am, Sir, yours, &c.

GALLOVIDIA NOVITIUS.

January 1808.

NOTE BY THE CONDUCTOR.

Lord Sommerville, when at the head of the Board of Agriculture, complained that husbandmen had more knowledge than practice; therefore, constantly recommended improvement in the latter as preferable to the former. But when his Lordship wished to extend practical improvement, we are confident he did not entertain an idea of such improvements as are instanced by our correspondent, far less that they would be first introduced in the district alluded to. But, without insisting on these matters, we are in duty bound to remark, that wet ploughing is at all times mischievous, binding the soil, lessening the pasture of artificial plants, and encouraging the growth of natural weeds. One sure rule may be laid down upon this subject, viz. that when rain is so heavy as to wet the ploughman through his coat, the land must suffer less or more from being stirred at such a a time. With regard to moonlight ploughing, we shall only remark, that it may be practicable, but seldom can be necessary. It is not with winter work that farmers find difficulty in getting forward, but principally with the operations of spring and summer, that any difficulty occurs. We praise the ingenuity of our correspondent, though not disposed to recommend the *improvement* which he has so well described.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

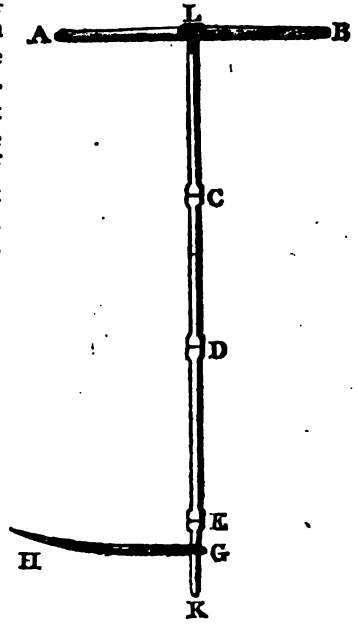
Plan for cutting Tangle or Seaware.

"Hæ nugæ seria ducunt."

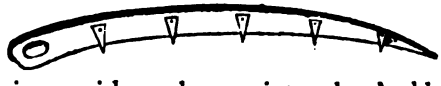
SIR,

ABOUT twelve months ago you was good enough to honour a paper of mine, 'On the Cultivation of Kelp,' with a place in your valuable Magazine. I then hinted, that I had a plan in contemplation for cutting the tangle, a kind of sea-ware, never wholly uncovered

uncovered, and much of it never seen, even at the lowest ebbs of the sea. Of course, it is a substance which has hitherto been in a great degree unappropriated for the use of manufactures, and only partially used for the benefit of agriculture. As a drawing will save much elaborate description, I subjoin a sketch of the implement I propose for cutting the tangle, which, for perspicuity, I shall call a *tangle-cutter*.



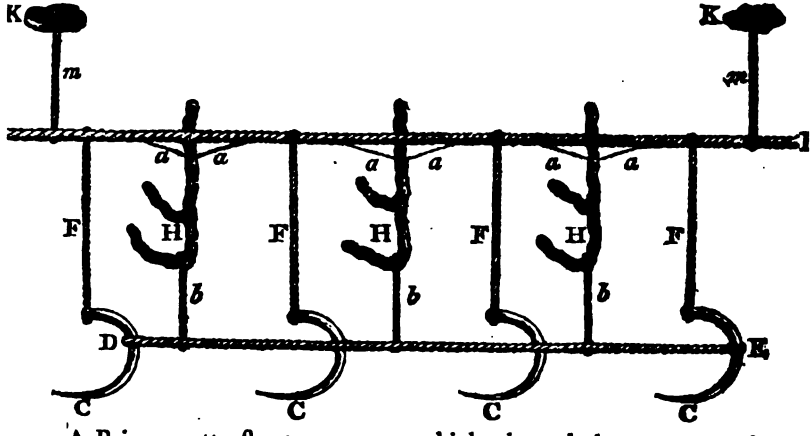
A B is an wooden handle 2½ feet long, fixed in a common boring iron E L, which may be made longer or shorter as occasion requires, by unscrewing it at the joints C, D, or E. The tangle-cutter may be formed of an old scythe screwed at right angles on the handle E L. It consists of three parts, E G containing a male screw at E; G H the scythe or knife, which may have an inclination rather a little upwards; and G K the heel on which the cutter moves. G K may be 3½ inches long, and G E about 3 or 4 inches long; so that the part H K E may be carried in one's hand without inconvenience. The parts or limbs L C, C D, and D E, may be cylindrical, of about ⅛ths of an inch in diameter, and each of them 3½ feet long or thereabouts. As the edge of the cutter may suffer much by striking against rocks, it will be adviseable to fit it with protectors, at intervals of six or eight inches, as represented on figure 2. Each of these may be about the thickness of a penny piece, with a sharp point and a double edge sufficiently sharp to cut a tangle: they may be fixed on the upper side of the knife with screw nails, so as they may be taken off to be sharpened when requisite: these teeth need not project over the surface of the knife more than half an inch.



It is almoſt unneceſſary to ſay, that the tangle-cutter is meant for the uſe of a perſon in a boat at ſea: while at work, the boat muſt drop anchors, or pretty large ſtones at ſtem and ſtern to keep her ſteady. The cutter may be uſed with ſufficient force, in the ſame

ſame way and poſition as a carpenter uſes a common wimble; altering its vertical poſition to one ſide or t'other, as rocks or ſtones may obſtruct its motion. It may be uſed at the depth of ſeveral fathoms. A box, with a bit of common window glaſs in one end of it, cloſe pottied to exclude the water, will ſerve to diſcover the bottom under water, ten or twelve fathoms deep; and a ſcrew-key ſhould always accompany the cutter to unſcrew the limbs if neceſſary, which get very tight together, owing to the neceſſity of having the edge of the cutter reverſe to the unſcrewing operation.

After the tangle is cut, the next ſtep is to get it to dry land. As the winds and waves are not to be truſted, and as the tangle does not ſwim near the ſurface like the common kelp ware, it muſt be dragged over the bottom. This I propoſe doing by the following ſimple apparatus. Hang on a common rope (of what length and ſtrength you pleaſe) drags of the following ſhape.



A B is a pretty ſtout rope, on which the whole apparatus is hung; C C C C are iron hooks or drags, about double the ſize of a common ſickle or reaping hook, ſuſpended to A B by ſmaller ropes F F F F, each of which may be about 2 feet in length, and tied to A B at intervals of 2 feet. Each of theſe drags has one hole or eye at the top, and another ſmaller hole through the centre. D E is a ſtout cord paſſing through the laſt mentioned holes, in order to preſerve the drags ſteady, and their concavities in the ſame line, or always facing the ſhore. H H H are branches of trees placed in the ſame poſition as the drags; they alſo ſerve as drags, and likewiſe give the whole apparatus (which I ſhall call a tangle-gatherer) a proper buoyancy and erection. It is evident, if theſe branches were fixed at one point only, that they would loſe the poſition neceſſary for raking the bottom. To obviate this, they muſt be tied to D E by the cords *b b b*, and alſo to A B by

a a a a a a,

a a a a a, as in the figure. The gatherer is apt to catch hold of rocks or ſtones in the operation of drawing it to the ſhore; therefore, corks or buoys may be attached to A B by the cords *m m*, at intervals of about fifteen feet, ſo as a perſon in a boat may eaſily diſentangle the drags by pulling *m m*. The gatherer being ſunk round the ware cut, is drawn to the ſhore with its contents, in the ſame manner as a drag-net. As the tangle is a heavy ſubſtance, perhaps a moveable windlaſs might be uſed to advantage in drawing the gatherer to the ſhore, in the ſame way as ſalmon nets are worked at ſome fiſhing ſtations. The figure on foregoing page repreſents the tangle-gatherer in the poſition it ſhould hold when under water.

I could have wiſhed much to have had it in my power to have furniſhed you at this time with the reſult of an experiment with theſe implements on a large ſcale; but the badneſs of the weather and other avocations, have prevented my accompliſhing this. Being yeſterday engaged in trying the power of the cutter, a gentleman from the Iſle of Sky, Lachlan Mackinnon Eſq. of Corry, was accidentally paſſing in a boat. I ſtated to him my plan, and ſhowed him the operation of the cutter, and he ſeemed to think it would anſwer my expectations. I truſt he will excuſe the freedom I now uſe with his name, as I did not mention my intention of doing ſo when I ſaw him. Being a gentleman of great ſkill and activity, and much engaged in the purchaſe and manufacture of kelp, he mentioned that he had propoſed this ſeaſon to manufacture kelp from cut tangle, and preferred my plan of cutting and gathering it to the one he had in view. For theſe reaſons, and as the ſeaſon approaches for kelp-making and potatoe-planting, if you ſhall think the above communication worthy of a place in the Farmer's Magazine, you will oblige me by inſerting it in your firſt Number.

There are other improvements I have in contemplation for the cutting operation,—ſuch as a decked boat of a peculiar conſtruction fitted with a variety of cutters moveable by a horizontal arm, adapted to levers with longitudinal joints, embracing the upright ſpindles of the cutters. It would be neceſſary, in ſuch a machine, that the cutters could be elevated or depreſſed at pleaſure:—this, I ſuppoſe, could be effected by rack-work. A machine of this ſort would cut the tangle, and move the boat to a new ſtation, by the ſame motion. This would render dropping anchors unneceſſary, and might perform a great deal of work in a ſhort time. But the conſtruction of ſuch an apparatus requires more time, and better workmen, than I can command at preſent. If I am ſucceſsful, I may perhaps trouble you with the reſult at a future period. In the mean time, I ſhould be glad to hear of any of your correſpondents taking up this ſubject, and proving the practicability

lity

lity and efficacy of theſe projections. It may at leaſt ſtimulate more ingenious men to work on this ſubject; and if I ſhall be the means of doing ſo, and of putting it in the power of every poor man on the ſhores of the Highlands of Scotland to raiſe one boll of potatoes more for his family, I ſhall be amply rewarded; and ſhall have the vanity to think, that I cooperate with the great and humane exertions of Government, and aſſiſt equally in preventing emigration as ſome of our more elaborate and learned authors.

As I have mentioned emigration, I beg the liberty of ſaying a few words on that ſubject. I believe no unprejudiced perſon who has reſided for ſome years in the Highlands, and poſſeſſed the opportunity, and taken the trouble to know the real ſtate of ſociety in this hitherto inacceſſible and uncultivated country, will be ſo much inclined as ſome ſpeculative gentlemen appear to be, to join in the *hue-and-cry* againſt the great calamity and danger of depopulation. I grant it is a moſt plauſible ſubject, and affords great ſcope for humane ſentiments, and patriotic declamation, but a much greater latitude for the exertion of humanity, by a cordial cooperation of Highland and Lowland proprietors. How many diſtricts in Scotland would thankfully receive, on good wages, a great portion of the ſuperfluous population of the Highlands, particularly in the department of agriculture? How many thouſands of theſe Highlanders in the ſhires of Inverneſs, Roſs, Sutherland, and Caithneſs, live moſtly on potatoes, in poor dwellings without chimnies and without glaſs. A late writer ſays the Highlanders do not now live in this ſtyle: I ſuppoſe he means in the ſouthern Highland counties; with which, however, I am not particularly acquainted. If correſponding ſocieties were eſtabliſhed in every Highland pariſh, with pariſhes ſituated in diſtricts advancing in improvement and cultivation, a progreſſive drain might be formed, ſufficient, at leaſt, to provide for the greater part of the riſing generation of Highlanders. But this cooperation would require to be cordial, particularly on the part of the Highland gentlemen. Some authors maintain, that the introduction of ſheep was the great and original cauſe of emigration: others, again, ſay that the ſpirit of emigrating took its riſe at an earlier period, and from a quite different cauſe. Theſe laſt, I am pretty certain, are moſt correct; though it is not to be doubted, that the extenſion of ſheep-farming is now one of the cauſes. But it is certainly true, that the ſpirit of emigration was firſt excited by an extenſion of the diſſolution of the bond of feudal union between the laird and his vaſſal. The Highland chieftain no longer reſided a mighty and beloved potentate among his friends and his vaſſals; ſtrangers were introduced, perhaps ſheep-farmers. Pride, diſappointment, hatred, and diſcontent, inflamed probably, in ſome diſtricts,

diſtricts, by religious animoſities, raged in the breaſts of a hitherto faithful, and always a proud tenantry. This gave the lead to emigration; the ſucceſſion was more eaſy; a Transatlantic voyage loſt its terrors. The ſame excitements remain, and the ſame paſſions are kept alive, and muſt be ſo, in a certain degree, till the ſpirit of feudaliſm ſhall vaniſh,—God grant how ſoon. Hitherto, there has been no field for employing the induſtry of the Highlanders, excepting the Caledonian canal, and Government roads, which are great bleſſings to the people. There are no improvements almoſt worth mentioning, in the extenſive diſtricts above mentioned. Highlanders are vain, lazy, and indolent from habit; but habit eaſily gives way to the opportunity and proſpect of gain, and a fair remuneration for labour, though this laſt is as yet little more than a novelty to Highlanders. Many writers deplore, in very feeling language, the hopeleſs ſituation of the population of theſe diſtricts: and it is not to be doubted, that their ſituation in general is to be pitied and lamented. But, in order not to give too much up to lamentation, it is to be recollected, that vaſt numbers of theſe people have their neareſt friends and relatives beyond the Atlantic. Some diſappointments, perhaps not of the firſt importance, and the flattering hopes of better things, tend to alleviate and counteract thoſe feelings, which are too apt to overpower the humane author in his cloſet.

Many people are zealous advocates for the *crofting* ſyſtem: this, however, ſo far as I have witneſſed, is no doubt ſome relief; but it does not ſeem calculated to anſwer the humane ideas entertained of it. In ſhort, it is a poor circumſcribed ſyſtem. Others cry, eſtabliſh manufactures,—and hope for ſuccour from this quarter; but many natural and moral difficulties diſcourage their eſtabliſhment in the Highlands. Some remedy is undoubtedly neceſſary; and I humbly apprehend it would well ſuit the clergymen and beſt men in the pariſhes above alluded to, to attempt ſome plan ſimilar to the above, digeſted by ſome perſon of greater abilities than I pretend to. I am not capable of viewing the effects of emigration with the penetrating eye of a political arithmetician. The above ideas have ariſen much more from being forced on my attention, from my local ſituation and avocations, than from deep reading or excogitation, which I hope will excuſe their faults and inaccuracies. I ſhall only add further, that I never could be ſo alarmed with the fears of the country being depopulated, as many perſons ſeem to be: theſe perſons, however, I believe, are in general Lowlanders. I hope our free and humane Government will never think of taking coercive meaſures, to oblige a multitude of our countrymen to live in a ſtarved ſtate, for the purpoſe of recruiting his Majeſty's army and navy.

D.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Farm Buildings, with an Account of a New Species of Roof.

SIR,

IT is the first principle of rural economy, that every farm should be provided with buildings suited to its extent and produce; with a house, to accommodate the farmer and his family; and with offices, to protect, from the injuries of the weather, his implements, his cattle, and his crop. The erection of these must precede any encouragement which a proprietor can bestow, and any improvement which a tenant can undertake. Man and beast are the primary agents in every agricultural operation. Each, for enjoying health, requires a species of shelter adapted to his habitudes. To each this shelter must be provided before any operation can be successfully conducted, or even prudently commenced.

This principle is so evident, that it meets with an easy and a general assent. At the commencement of every lease, a dwelling-house and offices are provided for the farm, by every proprietor, however illiberal; and, in the present circumstances of Scotland, it is sometimes imagined, that the necessary accommodation may be obtained, on his part, without much trouble or expense. As this country has been so long stocked with inhabitants, and so much crowded with population, as to admit, or, if you please, to require, frequent partial emigrations, every part of its surface sufficiently valuable to compensate the bare trouble of occupation, must, before that occurrence, have been converted into property. In the progress of improvement, this property has been generally committed to the management of professional farmers, and is cultivated by them on leases of a definite duration. On every farm there are found houses, generally of ancient date, certainly of a rude construction. At the expiration of the lease, these, with the lands appertaining, revert into the possesion of the proprietor. Both are delivered *simpliciter* to the incoming tenant, on a new lease; and the procedure is justified on the maxim, that the successor should be contented with that accommodation which satisfied all his predecessors; more particularly, as special provisions were inserted in every lease to prevent deterioration, from either the lapse of time, or the fury of the elements; and as every outgoing tenant was bound to have the houses on his farm in habitable condition; or, as it is expressed in technical language, *wind and water tight.*

This system still prevails in many parts of Scotland. Instances of it occur, not only on the bleak and barren shores of the Western Highlands, but also in many insulated recesses among the Grampian

Grampian mountains, and in the upland districts of almost all the midland and southern counties. To those regions, the faintest dawn of improvement has scarcely penetrated. A race of farmers still there exist, who unthinkingly follow the rude husbandry, and contentedly inhabit the wretched hovels, of former times. There is no reason to imagine, that this antiquated system is extending its reign. On the contrary, it is probable that it is almost universally on the decline. It may not, however, be improper to state its disadvantages, and, if possible, to hasten its downfal.

Wherever this barbarous system prevails, it generally happens, that the charge of erecting, as well as of repairing, farm-houses, falls to the share of the tenant. In such hands, from the want of ability, and even of inclination, the work is always imperfectly performed. * His lease is of no great duration; he has no motive to give greater durability to his erections; he is satisfied, if at the end of his lease he can deliver them, with a dry roof, and standing walls, into the hands of his successor. Though such houses may possess the requisite conditions of being habitable, still, they are so greatly decayed as to oblige the incoming tenant to undertake immediate and extensive ameliorations. It is expensive to rebuild: it is cheaper to repair. The latter alternative is naturally adopted; and, from the original imperfections of the workmanship, the reparations are so multiplied as to become cumbrously numerous, and painfully inconvenient. An estate, under this system of management, is easily recognized at a distance, by the passing traveller. He observes the farm-houses wearing

* A system radically similar to this, prevails where it should least be expected—in England, the head of the British empire, and even in London—the metropolis of England. Almost every house is there built, not upon feus, which are tantamount to perpetuity, but on leases, which are generally of no great duration. The noble courtier and the opulent merchant, are placed in the same situation, and obliged to adopt the same practice, with the most depressed and indigent farmer in Scotland. The first inquiry of the architect employed to build a house in town, is, what is the length of the lease of the site; and, to adapt to it the durability of his workmanship, is the principal secret of his art. To this cause, perhaps, may be assigned the inferiority in external appearance, of towns in England, when brought into comparison with those of Scotland. If English citizens, under the disadvantage of a transient lease, were to increase the durability or elegance of their houses, they would foolishly imitate the improvident magnificence of the great Duke of Marlborough, whose splendid mansion in Westminster, erected on the uncommonly long tenure of a centennial lease, must, in the course of a few months, revert, with its fine, to the Lords of the Treasury.

wearing the most determined and forbidding aspect of poverty; the walls, built of stones gathered from fields under tillage, and rounded by the friction of the plough, seldom perpendicular; the small apertures, falsely called windows, sometimes adorned with a few broken panes of glass to admit the luxury of light, and sometimes plugged with a bit of deal to exclude both light and cold; and the doors, so low as to be entered only in a stooping posture, affording to the inmates a daily lesson of humility. If, prompted by curiosity, he attempt to enter, he would not advance far, without stumbling on a buttress propping the tottering wall, or knocking his head against a post supporting the decaying roof; and if at length he penetrate into the *obscure sojourn*, the smoke, the dirt, and the stink which assail his senses, would intimate the necessity of a precipitate retreat.

A physician of the city, judging from the fate of his ordinary patients, would condemn such wretched habitations as injurious to health. Experience, in most cases, shows the falsehood of this opinion. The pure air of the country, and the athletic labours of husbandry, communicate so much vigour to the human constitution, that peasants seem to suffer little inconvenience from the wretchedness of their habitations; they live long, enjoy health, and appear contented. Those hovels, with all their imperfections, are perfectly invulnerable by the *slang* of sentimentalists. They are only a counterpart, with considerable improvements, to the cabins in which the hardy long-lived inhabitants of the northern regions of Europe, Asia, and America, choose to reside during great part of the year. A political economist would assert, with greater justice, that such a system is injurious, immediately to the profits of the farmer, and ultimately to the rents of the landlord. Industry is not natural to man. It must be excited; excited too, not by penalties, but by encouragement. The first and last encouragement which a tenant can receive, is the substantial improvement of his house and offices. If he obtain greater comfort or convenience at home, he will not be long in displaying industry abroad in his fields, and in attempting to increase their productiveness, that, by adding to his profits, he may be enabled to support an enlarged expenditure, and to accommodate his style of living to the advantages of his habitation. The first exertions of awakening industry, are directed to the removal of stones which obstructed the plough; to the draining of quagmires which were inaccessible to horses; and to the filling of gullies which were hollowed by wintry torrents. Those improvements are permanent. Obstacles are removed—never to return. The farmer derives great and immediate advantage; but he enjoys it only for a limited period. The landlord is treading on his heels, reaps the full fruit of his labours at the expiration

piration of his lease, and, in so far as the rent under the subsequent leaſe exceeds that under the preceding, after making a trifling deduction for the increaſing opulence of the country, and for the progreſſive depreciation of money, in the ſame proportion he obſerves the value of his lands augmented; at the inconſiderable expenſe, on his part, of providing ſuitable accommodation to the tenant. But if this encouragement be denied, the induſtry of the farmer remains dormant, and the property of the landlord continues in a ſtate of nature. A bad farm-houſe is an infallible criterion of an unproductive and unimproved farm. On the ordinary principles of human conduct, no motive can be found to prompt that man, who lives contentedly in a hovel, and wallows inceſſantly in dirt, to enhance, by cleanlineſs, the value of his dairy; or, by dreſſing his fields, to improve the quality, and to increaſe the quantity, of his crop. No principle ſeems more evident, than that, on large dairy farms, a ſuite of apartments ſhould be provided to contain the milk, butter, and cheeſe. I have known many farms, where from twenty to thirty milch cows were kept, deſtitute of this neceſſary accommodation; and have ſeen the barn, as being the only edifice unoccupied during ſummer, appropriated to ſupply the defect. In ſuch circumſtances, the produce of the dairy, from the impoſſibility of proper management, muſt be of inferior value. A neceſſity alſo ariſes of diſpoſing of it in a recent ſtate, and often at an unfavourable market, ere it be depreciated by the acceſſion of dirt, or waſted by the depredations of vermin. Little inconvenience may, perhaps, be felt in the neighbourhood of large cities, as the prices are there exceſſively high, and the demand uniformly great: but, in the remoter diſtricts of Scotland, and in all the northern iſles, where theſe advantages are denied, the inferior and inadequate price received for the produce of the dairy, loudly calls upon proprietors to improve the habitations of their tenants.

Happily for the country, a more liberal ſyſtem has been recently introduced, and is generally adopted. Inſtead of preventives of deterioration on the part of the tenant, leaſes contain ſtipulations of improvement on the part of the proprietor. The former hovels are condemned. New buildings are propoſed to be erected, ſuitable to the produce and extent of the farm. The charge of the erection is divided between the proprietor and the tenant: the former burdens himſelf with the price of the materials and the wages of the workmen; the latter is bound to perform all the neceſſary carriage. It is but juſtice to add, that thoſe erections are generally finiſhed in ſuch a ſubſtantial manner, as to ſuperſede, during the currency of an ordinary leaſe, the neceſſity of introducing *the wind and water tight* ſtipulation—the former ſafeguard of the proprietor's intereſt.

This ſyſtem claims great merit. As a ſtep to improvement, it deſerves praiſe. If it fall ſhort of perfection, that praiſe muſt be qualified. It may be queſtioned, on the principles of equity, whether it is proper to ſubject a tenant to any ſhare in the erection of permanent buildings, in which he has only a temporary intereſt, or even to the heavy charge of carrying the neceſſary materials, at the imminent danger of obſtructing his agricultural operations. From the ſtrong deſire of obtaining a comfortable habitation, he may be willing to ſubmit to that burden; but it does not thence follow that it is equitable, or even prudent, to impoſe it on his ſhoulders. However near the ſite of the farm-houſe may be to the quarry, where the ſtones for building are raiſed; or to the markets, where wood, lime and ſlates are reſpectively purchaſed, the quantity of labour requiſite for collecting ſo many, and ſo heavy materials, muſt be productive of confuſion and embarraſſment to a profeſſional farmer. Frequent caſes may be adduced to prove, that thoſe inconveniences are little felt, or entirely avoided. In many diſtricts, farms ſtill retain their original ſmallneſs, and agriculture remains in its ancient barbarity. The wretched occupants—they deſerve not the name of cultivators—muſt pay their rents, which are generally heavy, and which always exceed the produce of their poſſeſſions, by alien, and more lucrative employments. They are, therefore, to be met with every where but on their fields,—tranſporting grain to markets, repairing parochial and turnpike roads, or carrying coals to ſupply manufacturing villages. It is no diſadvantage for ſuch perſons, to be burdened with the carriage of materials for erecting their houſes, provided they receive, before the expiration of their leaſes, an adequate compenſation for their labour, in deductions from their rents. But it were unfair reaſoning, to draw a general concluſion reſpecting actual cultivators from ſuch caſes, however numerous. To give that wretched anomalous claſs of occupants, the ſpecific deſignation of farmers, is to pervert language, and to outrage common ſenſe. They derive nothing from their diminutive poſſeſſions but a ſcanty ſubſiſtence. They pay their rents from the wages received for their alien occupations. Their barbarous practices avail nothing to eſtabliſh the propriety of ſubjecting profeſſional farmers to the *carriage* ſtipulation. A farmer upon principle endeavours to form his eſtabliſhment with ſuch ſcrupulous accuracy, that there may be nothing defective and nothing ſuperfluous. He renders, as far as practicable, the produce of his farm adequate to the maintenance of his ſtock, and the power of his ſtock equal to the labour of his farm. An obligation on him to carry all the materials requiſite for the erection of his houſe and offices, muſt at once unhinge this ſyſtematic arrangement, and introduce

troduce inextricable confuſion. A new fund of labour is created. The ſtrength of his ſtock muſt be increaſed without any increaſe in the produce of his farm. The neceſſity thence ariſes of undertaking an alien occupation, and of ſuperadding the duty of a carrier to that of a farmer.

The uſual practice, in this ſituation, is to ſave expenſe, by keeping a ſmall carrying eſtabliſhment. Its inadequate power ſoon becomes too apparent to be concealed. The common expedient of increaſing the taſk of the carriers affords but a precarious and an inſufficient ſupply. A neceſſity is ſoon felt of drawing upon the labour of the farm, and of appropriating part of the ſtock employed in huſbandry to ſupply the deficient ſtrength of the carrying eſtabliſhment. The farmer is thus placed in ſuch an arduous ſituation, as to be obliged at once to overwork his ſtock, and to underwork his farm. The immediate outlay may thus be rendered inconſiderable; but this ſaving is dearly bought at the expenſe of the increaſed tear and wear of the ſtock, from the increaſe of its labour, and of the diminiſhed productiveneſs of the farm from the imperfection of its culture. Perhaps the actual loſs, however, ſuſtained on the whole, is of leſs conſequence than the perplexity, irritation and degradation, with which it is attended. The erection of farm-houſes, generally takes place at the commencement of a new leaſe. The minds of farmers are then highly, perhaps unreaſonably ſanguine. Conſidering the aſtoniſhing and unprecedented rents which they engage to pay on the renewal of their leaſes, it is ſurely the intereſt of the proprietor to cheriſh in them a ſpirit of enterpriſe, and to facilitate, rather than to embarraſs, their future operations. Now, no device can be contrived more effectual to defeat this purpoſe, than to impoſe on them, at that ſeaſon, the tedious and burdenſome ſtipulation of carriage. They are ſubjected, during the currency of a whole year, a period no more than ſufficient for the erection of farm-buildings, to the contingent and arbitrary demands of a village architect. At his call, they are obliged to ſuſpend the culture of their fields, perhaps at a time the moſt inconvenient, and to employ their teams in collecting materials for the ſupply of his mechanics. A farmer of ſpirit can ill brook ſuch humiliation. Environed with difficulties and mortifications, he begins to ſuſpect the goodlineſs of his inheritance. Seeing the ſupply of materials to mechanics a duty paramount to the culture of his farm, he finds himſelf degraded from the proud ſituation of an independent farmer, and reduced to the neceſſity of becoming the ſervant of ſervants. Looking around to his fields, refuſing to put forth their ſtrength from the want of neceſſary culture, and feeling himſelf unable to correct the defect when embarraſſed with alien occupations, he ſinks into deſpond-

ency, allows the ſpirit of induſtry gradually to decline, and ultimately quits his farm with a deſpairing heart and a ſhattered fortune.

The most eligible plan for a farmer, when subjected to the *carriage* stipulation, is to form a distinct establishment for its performance, independent of that set apart for husbandry. Between these, he should draw a broad line of distinction. He is thus enabled to contend successfully with the difficulties of his situation. The jarring occupations in which he is engaged, may be conducted without much interference or embarrassment. His farm, cultivated by his hinds, and yielding its fruit in its season, will make an ample return of profit for his outlay: his burden of carriage, regularly performed by his carriers, will be gradually shifted from his shoulders, and will, at length, discover to him the extent of his loss;—a loss which falls irremediably upon his capital, and whose amount is directly as the expense of his carrying establishment.

If this plan should be preferred, and with every farmer of spirit and capital, it certainly merits a decided preference over the usual mode of compromising the difficulty, at the risk of depressing his mind, and deteriorating his farm,—another consequence follows, of great importance, as it is of practical utility. It is easy to demonstrate, on the simplest principles of political economy, that the farmer will execute his *carriage* burden at the least possible expense, by devolving it at once upon a contractor. From the effects of the division of labour, it appears that the same weight can be cheaper conveyed to the same distance in the ordinary routine of a professional carrier, than by the most economical arrangements of an actual farmer. The latter must incur some expense in forming his carrying establishment, suffer some inconvenience during its continuance from the novelty of his employment, and sustain, unavoidably, considerable loss in winding up the concern. The former, having an establishment always ready and disciplined for such services, is entirely exempted from these disadvantages. In whatever degree they operate to the detriment of the farmer, in the same degree is the carrier enabled to execute the same labour at a cheaper rate.

From these observations, it appears that a farmer possesses no peculiar advantage to facilitate the carriage of materials for the erection of his house and offices; and that, if this burden is imposed on him at the commencement, or even during the currency of his lease, it is his interest to transfer the performance of it to a professional carrier, as it is in his hands that it can be executed at the least possible expense. The proprietor, therefore, and the farmer, stand precisely in the same situation. Both of them are disqualified

disqualified for undertaking the performance of tedious and heavy carriages; both of them must find it their advantage to devolve the task on a contractor; both of them possess equal facilities for negociating the contract. It now remains to consider, which of them should defray the contractor's charge. If the tenant must make payment, the sum is paid—never to return. It is permanently fixed in certain buildings—in an immoveable subject, of which he enjoys a temporary possession, but from which he must retire at the expiration of his lease. On the plainest principles of equity, it is evident that he ought not to expend such a large portion of his capital, without the possibility of reimbursement. The proprietor is the only party which retains a permanent interest in farm buildings, and which derives a permanent revenue from the use of them: it is fair thence to conclude, that he should defray the whole expense attending the original erection. It is sometimes argued, that the tenant is compensated for the expense incurred under the *carriage* stipulation, by the use of those buildings which he receives during the currency of his lease. But it ought to be remembered, that money too is a subject which produces a revenue; that the sum expended by the farmer might have been laid out at interest; and that this interest, if accumulating for fourteen years, a period considerably shorter than the ordinary term of a lease, becomes equal to the original principal. Independently of this consideration, the tendency of the argument is objectionable, as it gives sanction to a rule always variable, and frequently iniquitous. In some situations, where the markets are near the intended site of the buildings, the carriage of the rude materials thither may be comparatively easy; but, in many districts, where the markets are at a distance, and where they are ill supplied, though near, the burden of the farmer becomes tedious and intolerable. If the same compensation, however, be awarded for carriage in both of these cases;—in each of them, either the proprietor, or the tenant, receives an undue advantage;—in each of them, either the proprietor, or the tenant, inevitably sustains considerable loss. It were needless to expose further a procedure so injurious, and so arbitrary. If the proprietor intend *bona fide* to defray the whole expense attending the erection of farm buildings, (and this, on his part, justice clearly requires, and the tenant ultimately expects), the mode of payment should be free from ambiguity or vexation. No benefit, but much injury, I have already shown, can ensue from employing the mediation of the tenant in executing the carriage of the materials. The proprietor ought, therefore, to have recourse to some other party which can undertake the task without inconvenience; and to bargain with a professional carrier,

who is both able and willing to perform it, at the least possible expense.

If this arrangement be so advantageous, there is no reason to doubt that it will at length be generally adopted. The sooner that it is introduced on any estate, the sooner is the proprietor consulting his real interest, and providing for his future opulence. Duty and interest are generally found to coincide. In the present case, the coincidence is most exact between what is just and what is gainful. Farm-houses, though an expensive, are not an unproductive, appendage to an estate. They are as much a part of the proprietor's capital, as the lands on which they are built; they are as much an ingredient in the tenant's rent, as the fields which he cultivates. The rent is nominally paid at a certain sum per acre: but in estimating the value of the acre, the farmer attends, with equal scrupulousness, to the fertility of the soil on which his crop is to be raised, and to the commodiousness of the houses in which his family is to dwell, and in which his stock is to be secured. Indeed, farm buildings, consistently with the proprietor's interest, may be more than commodious,—may even approach to elegance. Farmers, like every other creature, *are made subject to vanity;* and like every class in society, part with their money for its gratification. Dull and phlegmatic as they are generally characterized, they have the external senses in sufficient perfection to perceive the advantages of a comfortable habitation;—they have their understandings enlightened enough to appreciate the value of substantial offices, in preserving the health of their cattle, by sheltering them from the severities of the seasons; in increasing the durability of their utensils, by protecting them from the vicissitudes of the weather; and in facilitating the management of their crop, by simplifying the process of extricating the grain, and preparing it for the market in a more perfect state.

After thus ascertaining the party by which farm-houses should be erected, it still remains to inquire into the extent of accommodation which they should contain; but on the discussion of this point I am not inclined to enter, as it would lead into a minute detail to which general reasoning might not be applicable. Much useful information on this subject has been communicated, in some recent Numbers of the Farmer's Magazine, particularly by R. r. r. in No. 22, and by Mr Erskine of Marr in No. 31. There is one principle, however, common to all farm-buildings,—the great extent of ground floor; on which a few concluding observations may be offered. This property is so peculiar, as to be characteristic of this species of architecture; and so essential, as never to be violated with impunity. Manufactures, in this respect, admit of very

very great latitude. The proceſſes of which they generally conſiſt, are ſo numerous and ſo diverſified, as to require every variety of ſituation from the dampneſs of a cellar, to the dryneſs of a garret; hence factories are built ſo high, with ſtory towering above ſtory, till the heads of the workmen grow giddy in aſcending to the roof. But ſuch is the nature of farm ſtock, animate as well as inanimate, that almoſt all of it muſt enter by a low door, and remain on the ground floor. On this account, farm-houſes conſiſt of long ranges of buildings ſcarcely riſing above one ſtory; hence the vaſt diſproportion between the extent of roof and the quantity of accommodation.

It is univerſally admitted, that a ſlated roof approaches the neareſt to perfection. Slates form an impenetrable, and an incombuſtible covering; are ſcarcely affected by the violence of the wind, or the viciſſitudes of the weather; and, if of a good quality, will laſt, with inconſiderable reparations, for a ſeries of ages. A ſlated roof, however, from the high price of the original materials, is always the moſt expenſive part of a houſe. From the great extent of roof, required in rural architecture, the expenſe on this ſcore is ſo enormous, as to induce many proprietors to adopt ſome cheaper ſubſtitute. Thatch, the venerable and pictureſque roof of other times, ſtill meets with a grateful preference. The diſadvantages to which it is ſubject, more than counterbalance the original cheapneſs of the materials. It is dangerous from its great combuſtibility; it becomes ultimately expenſive from requiring a complete renewal in the courſe of a few years, and partial reparations after every ſtorm that blows; it is directly injurious from the harbour which it affords to every ſpecies of vermin, and from waſting unproductively that ſtraw which ought to be conſumed as food for cattle, and returned as manure to the ground. Even tiles, though, in many reſpects, preferable to thatch, form but an imperfect ſubſtitute for ſlates. They require inceſſant reparations, being liable, from the form in which they are caſt, to be thrown down by the violence of ſtorms, and from the ſubſtance of which they are made, to be broken in pieces by changes of temperature. A new ſpecies of roof has been recently introduced into this country, which is free from all thoſe inconveniences, which is equal to ſlates in durability, and is executed at about half the expenſe.

The practice of covering the roof with paper, ſaturated with tar, is ſaid to have been brought from England. It was introduced about twenty years ago by Mr Wood, a ſhip-builder in Greenock. His example was long gazed upon in ſtupid ſilence. Frequent imitations have been lately executed in the vicinity of Glaſgow. Laſt ſummer, in the pariſh of Campſie, a pile of buildings

for

for preparing alum, and a village containing about fifty families, were erected with a paper roof. The advantages of this over every preceding ſubſtitute for ſlates, will appear from the following account of the common practice. The roof is much flattened. No higher elevation is required than is barely neceſſary to carry off water. The common proportion is one foot in height for every twelve of breadth. From the lightneſs of the paper covering, the couples are very ſlender, no more than three inches in breadth, and one inch and a half in thickneſs. Upon theſe are laid deals, half an inch in thickneſs, and dreſſed with a plane on the edges, that there may be no intervals at the joinings. The external cover is commonly ſheathing paper. * After being dipped in tar, raiſed nearly to the boiling point, that it might penetrate with greater facility, the ſheets of paper are allowed to dry for the ſpace of two days, by which time the tar is ſo perfectly imbibed as to become almoſt inviſible. The ſheets are again dipped in tar at a lower tempetature, and then, in the ſame manner as ſlates, nailed on the roof, overlapping one another ſo far as to be triple at the joinings, and double in every other part. Above the whole is laid a coat of tar boiled to the conſiſtency of pitch, on which fine ſmithy aſhes are paſſed through a ſieve to diminiſh the combuſtibility, and to prevent the liquefaction of the tar. This roof is executed at half the expenſe of one with ſlates. To enable any perſon to verify this calculation, it is only neceſſary to add, that one hundred weight of ſheathing paper, and a barrel of common tar, each of which now coſts about thirty ſhillings, are required for a Scotch rood of roof, or, in Engliſh meaſure, for every 36 ſquare yards.

On the preceding mode, which is the firſt that was adopted, ſome improvements have already been introduced. The only improvement, of obvious merit, was diſcovered by Mr William Ramſay of Glaſgow. This ingenious chemiſt uſes the tar extracted from wood in the formation of the pyrolignous † acid, and, by a peculiar

* This ſpecies of paper is a kind of paſteboard, and receives its name from being employed in ſheathing ſhips. There are few merchant veſſels ſecured by copper bottoms againſt the attack of worms. The cheaper defence of a coat of tar is employed, and found ſufficient againſt thoſe deſtructive animals. A covering of this paper ſaturated with tar is laid on the keel, and prevented from being waſhed away by an exterior coating of half inch deals. Theſe are attacked and perforated by the worm: but its further progreſs is arreſted as ſoon as it penetrates to the ſheathing paper.

† It is only of late that this acid has been prepared for the purpoſes of commerce. The materials from which it is extracted, are always hard

peculiar compoſition, makes it aſſume as cloſe a texture, and as bright a poliſh, as the fineſt marble. He alſo gives a preference to the coarſe paper commonly uſed for packages; as ſheathing paper, from being made without any glutinous ingredient, is apt when handled to fall in pieces. Other improvements may perhaps be made when this roof is more generally adopted, and more perfectly underſtood. It has been frequently employed on the factories, and habitations of manufacturers. Mr Speirs of Culcreuch, is the firſt country gentleman, ſo far as I know, who has introduced it on a houſe purely rural. The landed intereſt is juſtly averſe to imitate the dazzling plans of the mercantile world, and generally wait till their utility is evinced by the teſt of experience. This recommendation, the paper roof now decidedly poſſeſſes. Twenty years have elapſed ſince a public ſtore-houſe, at the harbour of Greenock, was roofed with paper; during that period, it has received no repairs, and, at the preſent day, it continues in perfect preſervation. I am, Sir, yours, &c.

JOHN GRAHAM.

Fintry Manse, 4. *Jan.* 1808.

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hard wood, commonly the coppice of oak. Theſe are placed in a veſſel, and ſubjected to the action of heat. The tar gradually oozes out, and is received at an inferior aperture: the acid riſes in the ſtate of fumes, and is condenſed in a refrigeratory. This ſubſtance, when ſubmitted to chemical analyſis, is found to be acetic acid, with a ſmall portion of empyreumatic oil. It promiſes to ſuperſede the vinegar of commerce, which is acetic acid in an impure and diluted ſtate, as it can be prepared at a much cheaper rate, and ſubſtituted for vinegar in every manufacture. The weakeſt vinegar is ſold at eighten-pence per gallon, while the ſame quantity of pyrolignous acid is ſold for ſixpence. As their reſpective ſtrength is found, from ſaturating any alkali, to be as 1 to 3, it appears that pyrolignous acid in effect is nine times cheaper than the vinegar of commerce. I have been informed by Mr Ramsay, that there is a probability of depriving the acid of its unpleaſant flavour, of introducing the uſe of it in the kitchen, and of employing it as a condiment for food.

ACCOUNT

ACCOUNT *of* WHEAT *sold in* HADDINGTON MARKET, *for ready Money, from November 7th* 806, *to October* 30*th* 1807; *with the Weekly, Monthy, and Annual Average Prices; obligingly communicated by* Mr TODRICK, *clerk of the market.*

Date.	*Quantity.*	*Value.*			*Weekly Average.*			*Monthly Average.*		
1806.	BOLLS.	£.	*s.*	*d.*	£.	*s.*	*d.*	£.	*s.*	*d.*
Nov. 7.	974	1781	14	6	1	16	7			
14.	674	1196	4	0	1	15	$5\frac{1}{12}$			
21.	885	1576	17	6	1	15	$7\frac{7}{12}$			
28.	760	1360	0	0	1	15	$9\frac{5}{12}$			
	3293	5914	16	0		—		1	15	11
Dec. 5.	700	1318	2	6	1	17	$7\frac{4}{12}$			
12.	783	1546	7	0	1	19	$5\frac{1}{12}$			
19.	764	1454	7	0	1	18	$0\frac{10}{12}$			
26.	648	1201	0	4	1	17	$0\frac{2}{12}$			
	2895	5519	16	10		—		1	18	$1\frac{7}{12}$
1807.										
Jan. 2.	707	1286	9	6	1	16	$4\frac{8}{12}$			
9.	565	1071	17	6	1	17	$11\frac{3}{12}$			
16.	481	949	1	0	1	19	$5\frac{6}{12}$			
23.	513	968	14	6	1	17	$9\frac{3}{12}$			
30.	562	1045	17	6	1	17	$2\frac{7}{12}$			
	2828	5322	0	0		—		1	17	8
Feb. 6.	346	651	4	6	1	17	$7\frac{8}{12}$			
13.	555	1043	4	0	1	17	$7\frac{3}{12}$			
20.	631	1155	4	0	1	16	$7\frac{4}{12}$			
27.	445	845	15	6	1	18	$0\frac{8}{12}$			
	1977	3695	8	0		—		1	17	$4\frac{7}{12}$
Mar. 6.	511	986	3	6	1	18	$7\frac{2}{12}$			
13.	415	810	3	0	1	19	$0\frac{6}{12}$			
20.	259	517	6	6	1	19	$11\frac{4}{12}$			
27.	360	682	14	0	1	17	$11\frac{1}{12}$			
	1545	2996	7	0		—		1	18	$9\frac{5}{12}$
Apr. 3.	399	775	1	6	1	18	$10\frac{2}{12}$			
10.	312	614	17	3	1	19	$4\frac{11}{12}$			
17.	347	680	6	0	1	19	$2\frac{6}{12}$			
24.	577	1100	10	6	1	18	$1\frac{9}{12}$			
	1635	3170	15	3		—		1	18	$9\frac{5}{12}$

Date. 1807.	*Quantity.* BOLLS.	*Value.* £.	s.	d.	*Weekly Average.* £.	s.	d.	*Monthly Average.* £.	s.	d.
May 1.	532	1049	13	6	1	19	$5\frac{6}{12}$			
8.	882	736	19	6	1	18	7			
15.	492	932	16	0	1	17	11			
22.	516	950	1	6	1	17	$2\frac{6}{12}$			
29.	335	615	16	6	1	16	$9\frac{3}{12}$			
	2257	4285	7	0		—		1	17	$11\frac{7}{12}$
June 5.	341	645	17	6	1	17	$10\frac{6}{12}$			
12.	391	763	13	6	1	19	$0\frac{9}{12}$			
19.	584	1116	17	6	1	18	$2\frac{11}{12}$			
26.	433	847	4	6	1	19	$1\frac{4}{12}$			
	1749	3373	13	0		—		1	18	$6\frac{8}{12}$
July 3.	382	754	18	3	1	19	$6\frac{1}{12}$			
10.	428	851	10	6	1	19	$9\frac{5}{12}$			
17.	523	1064	10	0	2	0	$8\frac{6}{12}$			
24.	419	869	16	0	2	1	$6\frac{2}{12}$			
31.	346	688	18	6	1	19	$9\frac{10}{12}$			
	2098	4229	13	3		—		2	0	$3\frac{10}{12}$
Aug. 7.	376	690	8	0	1	16	$8\frac{8}{12}$			
14.	254	474	10	0	1	17	$4\frac{4}{12}$			
21.	456	869	16	0	1	18	$1\frac{9}{12}$			
28.	396	747	12	0	1	17	$9\frac{1}{12}$			
	1482	2782	6	0		—		1	17	$6\frac{6}{12}$
Sept. 4.	318	573	3	0	1	16	$0\frac{6}{12}$			
11.	375	658	14	0	1	15	$1\frac{6}{12}$			
18.	497	867	2	9	1	14	$10\frac{8}{12}$			
25.	597	1026	18	9	1	14	$4\frac{10}{12}$			
	1787	3125	18	6		—		1	14	$11\frac{9}{12}$
Oct. 2.	624	1036	5	0	1	13	$2\frac{6}{12}$			
9.	513	876	4	6	1	14	$1\frac{11}{12}$			
16.	469	802	2	0	1	14	$2\frac{5}{12}$			
23.	540	871	5	0	1	12	$3\frac{3}{12}$			
30.	550	877	12	0	1	11	$10\frac{11}{12}$			
	26 6	4463	8	6		—		1	13	$1\frac{4}{12}$

ABSTRACT.

DATE.	*Monthly Quantity.* BOLLS.	*Monthly Value.* L.	s.	d.	*Monthly Average.* L.	s.	d.	*Annual Average.* L.	s.	d.
1806.										
November	3293	5914	16	0	1	15	11			
December	2895	5519	16	10	1	18	$1\frac{7}{12}$			
1807.										
January	2828	5322	0	0	1	17	8			
February	1977	3695	8	0	1	17	$4\frac{7}{12}$			
March	1545	2996	7	0	1	18	$9\frac{5}{12}$			
Aprll	1635	3170	15	8	1	18	$9\frac{5}{12}$			
May	2257	4285	7	0	1	17	$11\frac{7}{12}$			
June	1749	3373	13	0	1	18	$6\frac{10}{12}$			
July	2098	4229	13	8	2	0	$3\frac{10}{12}$			
August	1482	2782	6	0	1	17	$6\frac{6}{12}$			
September	1787	3125	18	6	1	14	$11\frac{9}{12}$			
October	2696	4463	8	6	1	13	$1\frac{4}{12}$			
	26242	48879	9	4		—		1	17	3

N. B. The quantity of wheat sold of 1805, or from November 1. 1805, to November 1806, was 30,480 bolls, being 4138 bolls above the sales of crop 1806, during the like number of market days. The total produce of the sales, crop 1805, was 54,791*l.* 4s. 6d., which exceeds that of the present, as stated above, by no less a sum than 5911*l.* 15s. 2d. It deserves also to be noticed, that the sales from November 1804, to November 1805, amounted to 58,037*l.* 16s. 6d., which is 9158*l.* 7s. 2d. above the sales of last year. From these statements it appears, that the growing of wheat is not now such a profitable business as it was two years ago, notwithstanding that rent and labour have both increased in value within the period under consideration.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Selections from the Agricultural Lectures of Dr Walker.

SIR,

THE late Dr Walker, Professor of Natural History, read lectures on Agriculture in the university of Edinburgh, which I attended more than twenty years ago. I have selected a few remarks of his; and if the whole, or any of them, are worth inserting in your Magazine, they are at your service.

In

In the year 1708, a tenant of the Earl of Haddington, in Eaſt Lothian, had a horſe ſtolen from him, which he purſued to Newcaſtle; and, to prove his property, was obliged to ſend for two of his ſervants. In the interval, he obſerved them fallowing in that part of the country, and made himſelf maſter of the practice. It was the month of May, and his abſence, with that of his ſervants, had delayed the ſowing of a field he deſigned for barley. This field he fallowed upon his return; which was the firſt inſtance of fallowing in Scotland.

The firſt encloſures with hedges in Scotland, were made in Eaſt Lothian by ſome of Cromwell's ſoldiers.

Sown graſſes were firſt introduced into Eaſt Lothian, alſo from England, a few years after ſummer-fallowing. In the year 1673, all the cattle in England periſhed, except where they had ſown graſſes and hay. It used to be ſo in Scotland in a hard winter; and there is ſtill the ſame danger in the Highlands.

Without artificial graſſes, our country cannot arrive at its higheſt produce, either of corn or cattle.

The *Lolium perenne*, or ryegraſs, is not mentioned as a ſown graſs before 1636.

Ryegraſs is an impoveriſher of the ſoil, becauſe it has few radical leaves, and ſtarts out into ſtems like the *frumenta*; and becauſe it is generally allowed to run to ſeed, and even to ripen its ſeeds.

Clover, ryegraſs, lucern, and ſainfoin, are almoſt the only ſown graſſes known in Scotland, and the two laſt very little. Others are wanted, and it is probable may be beſt ſupplied from the natural paſture graſſes.

In ſummer, labouring horſes ought to be fed at the ſtall on green crops, at leaſt between yokings, which will give them more ſtrength for their afternoon's labour than they could acquire in double the time at paſture: and, if fed with ſown graſs, or tares, in the ſtable, they may be ſupported on one third of the extent of ground they would require for paſturage.

In winter, the farmer's work-horſes muſt be kept, at a great expenſe, upon hay and corn; but, in ſummer, upon clover or lucern, to be cut for them daily, they have not only a cheaper diet, but are kept in better order than on any dry forage whatever.

It is therefore an important view in agriculture, to furniſh the farmer with a green crop, fit to be cut for his horſes during as great a part of the year as poſſible.

Red clover and lucern ſeem to be the beſt green crops for cutting. But, in moſt parts of Scotland, a farmer cannot cut lucern for his horſes till the 1ſt of June, nor after the 1ſt of October;

October; and clover neither so soon nor so late. To supply him with a green crop during the months of May and October, and part of April and November, would be an essential benefit.

Columbine will afford a crop fit for cutting, April 15.; scented grass (Anthoxanthon) in May; burnet in October and part of November.

The only grasses which deserve to be tried as artificial pastures, are such as are known to be an agreeable and wholesome food for cattle, both green and dry, and which are of a size capable to afford such a weighty crop as may be profitable upon cultivation. They are the following.

Alopecurus pratensis.
Anthoxanthon odoratum.
Agrostis capillaris.
Poa angustifolia.
Avena pratensis.
Avena flavescens.
Juncus squarrosus.
Dactylis glomerata.
Aira cœrulea.
Poa trivialis.
Poa annua.
Bromus secalinus.
Avena pubescens.
Juncus articulatus.
Holcus lanatus et mollis.
Phleum pratense.
Milium effusum.
Aira aquatica.
Poa pratensis.
Festuca elatior.
Bromus giganteus.
Avena elatior.
Cynosurus cristatus.

The Holcus lanatus, white grass, or Yorkshire fog, has not been much admired by some; but upon lands adapted for it, it yields a very great produce. Upon land of Mr William Corrie, at Dumfries, which was sleeched, it rose so remarkably as to exclude all other grasses, and so entirely occupied the soil, that the crop of hay was wholly composed of it. This crop amounted to 240 stones upon each Scotch acre, which was at least 50 stones more than would have been expected of ryegrass upon the same land. Before this land was sleeched, there had been but very little of the Holcus observed upon it. The Holcus hay is very salutary for all sorts of cattle; but it is everywhere observed, that it does not go so far as ryegrass hay, and that cattle eat much more of it, which is probably owing to its being softer and more agreeable to their taste.

The Juncus articulatus, or Spret, may also be made more useful. One great view in the agriculture of the grazing farms, is to augment the winter forage; for no more cattle can be kept, than what the winter forage supports. Hence a great loss in the summer produce of the country. Great fields and extensive meadows, in our mountainous countries, are covered with a thick tall crop of sprets. This plant there rises almost as unimpaired as if it had stood in an enclosure where there were no cattle;

cattle; for cattle do not touch it, if tolerably fed, except when it rises first. There is a great error to be observed among farmers in the management of this grass. Indeed, there is no part of husbandry of which farmers are in general more ignorant than that of pasture. A considerable part of this crop is usually cut for hay; but not generally till the month of September. This juncus, in its proper soil, is then between two and three feet high, come to seed, and so hard and rough as to afford nothing but hay of the coarsest and very worst quality. What they do not cut, is allowed to stand neglected by the cattle; and in winter falls down upon the ground, where it forms a thick cover of drys traw; and, in this case, the soil yields little food the whole year round.

By cutting sprets in the first week of July, they will make tolerable hay; and they will spring from the root, and form a green sward before winter. It would be worth while to cut sprets for this green sward, though they were to be thrown into the dunghill after they were cut.

Hay of all kinds cannot be cut too near the ground. What is left at the bottom is so much hay entirely lost, being neglected by the cattle, which pasture upon the after growth only. It is an error to imagine, that the rankness of the hay stubble promotes the springing of the grass. It has quite the opposite effect.

The Juncus squarrosus, or Stool Bent, is valuable, because it is less affected by cold than almost any other grass. It is of the greatest use to sheep in the month of February, being the only forage they then have that is green, fresh, and succulent.

The chief produce of Scotland, from the union of the Crowns to that of the Kingdoms, was cattle. The country was then nothing else but a grazing-field for England. But as Scotland has increased in arts and industry, though the numbers of cattle have been much enlarged, their exportation has diminished. This diminution began at the Union; and we may safely judge, in time to come, of the prosperity or decay of the country by the increase or decrease of this export. But plentiful exportation of corn may be made a security against famine: It promotes agrestic industry, is a real profit to the kingdom, and an advantage to the landed interest. I am, Sir, yours, &c.

A. S.

NOTE BY THE CONDUCTOR.

THE above remarks are inserted verbatim as they were sent us; therefore we are in duty bound to notice, that Dr Walker has fallen into an error respecting the introduction of summer fallow into Scotland, in assigning the merit of the introduction to a tenant of the Earl of Haddington. Summer fallow was prac-

tised in Scotland before 1708, though before that time the practice had not become general. The way in which fallow was introduced is already explained, p. 161. Vol. I. of this Magazine, where, upon the authority of several respectable gentlemen, it is stated, that John Walker, tenant in Beanston, in the parish of Prestonkirk, was the first person who summer-fallowed land in North Britain. The late Sir David Kinloch of Gilmerton constantly maintained the facts which are stated; and as Sir David's father was contemporary with Mr Walker, and resided within half a mile of his house, and besides was in habits of intimacy with him, there can be no doubt concerning the correctness of what we stated.

We are not sure whether lucern can be advantageously cultivated in Scotland, any attempts hitherto made to produce this grass having almost in every case ended unsuccessfully. We know not a better article of green food, than what is produced from a mixture of broad clover and ryegrass; care being taken to proportion the quantity sown of the latter to the quality of the ground on which it is to be cultivated. Ryegrass, to be sure, is a scourger, when allowed to ripen its seed; but few farmers allow it to stand till in that stage. As a pasture grass, it is one of the earliest of which we are possessed; and if ate down in May, will rarely prove detrimental afterwards. In Scotland, no article of green food is fit for the scythe till the end of May, or first of June, except what is produced in meadows adjoining to some of our great towns; but after the first of June, there is not the slightest difficulty of procuring green food till the first of November, or longer, if frost does not intervene and destroy the crop. If tares are sown at different times, and in sufficient quantities, the two crops of clover may be not only connected together, but the period of green food extended considerably.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Proceedings of the SMITHFIELD CLUB.

SIR,

ALLOW me to present your readers with a brief account of the late proceedings of the *Smithfield Club*, an association of noblemen, gentlemen, and practical farmers, for the laudable purposes, by a public exhibition and premiums, of encouraging the effectual, early, and economic feeding of animals for the London market, and whose desire it is, to give every possible de-

gree

gree of publicity to all such authentic documents, as they may be able to obtain, which are calculated to increase our knowledge of the comparative merits of different breeds of animals, and the best modes of treating each. On Wednesday evening the 9th of December, the cattle, sheep and pigs, began to arrive at *Mr David Sadler's* repository yard in Goswell-Street, near Smithfield Market, from different parts of the country, the stewards being in attendance to open and examine the regularity of the certificates, as the animals arrived that evening and early next morning; when the five following gentlemen, who had been appointed as judges for examining the animals, and awarding the premiums, viz. *Charles Gordon Gray Esq.*, of Tracey Park, near Bath; *Mr Thomas Barker*, grazier, of Wilsborough, Kent; *Mr John Ellman*, grazier, of Glynd, Sussex; *Mr John Hand*, butcher, of Carnaby Market, London; *Mr Thomas Ellard*, butcher, of Leadenhall Market, London; proceeded to compare the certificates, and examine the animals, and, before they parted, drew up and signed their award of the prizes, as the same are mentioned in the accounts of the animals, for which dead-weight returns have been made. The premiums in Classes II, III, IV, V, and VIII, (See this Mag. Vol. 8. p. 331.) were not adjudged; and the additional premium for the best ox in the first six Classes was adjudged to Mr Flowers's ox in Class I. On the next morning the show commenced, consisting of animals, whose owners were as follows, viz. The Duke of Bedford, six sheep;—William Boultbee, one pig;—James Butler, two pigs;—Samuel Chandler, two oxen;—John Edmonds, two oxen and three sheep;—William Flowers, two oxen;—Francis Ireland, a freemartin heifer;—Joseph Joyner, two oxen;—Joseph S. Joyner, two oxen;—Henry King junior, three sheep;—James King, two oxen;—Gilbert Maltby, three sheep;—George Marshall, a Durham bull;—Rev. Thomas Plaskett, six sheep;—Thomas Pickford, three oxen and seven sheep;—Joseph Pigg, one pig;—Thomas Purdy, six sheep;—John Roads, two pigs;—Robert Mitchel Robinson, six sheep;—David Sadler, two Cape sheep and a pig;—William Slow, one pig;—John Terret, one ox;—The Earl of Thanet, two oxen;—Thomas Walker, three sheep;—Martin Webber, two oxen;—John Westcar, two oxen and six sheep;—Charles Callis Western Esq., six sheep, a pig and a boar.

The show continued during Friday, Saturday, and Monday, and was, as usual, visited by a great concourse of noblemen, gentlemen, and practical men, engaged in agriculture and its attendant arts; and much interesting discussion took place on the merits and defects of the animals shown. Mr Thomas Pickford

 produced

produced some very fine turnips, from his newly enclosed farm in Hertfordshire; and many prospectuses and notices interesting to agriculturists, were stuck up or distributed.

During the continuance of the show, three numerous meetings of the Club were held for business, *His Grace the Duke of Bedford* in the chair, when the 22 following new members were elected, viz. Charles Robert Henry Bailey, John Cator, William Coles, Lieutenant-Colonel William Cunningham, Colonel David Cunynghame, William Flowers, Benjamin Gray junior, Joseph Halsey Esq. M. P., Benjamin Hobhouse Esq. M. P., Henry Hoyte, John Hutton, James Ingram, John King, Robert Kirk, William Lester, Gilbert Maltby, Thomas Mercer, Robert Clarke Paul, William Marmaduke Sellon, Joshua Trimmer, William Walker (of Woolsthorpe), and John Wing. The officers for the following year were reelected as follows, viz. *President*, His Grace the Duke of Bedford—*Stewards*, Robert Bing Esq., Mr Henry King junior—*Treasurer*, Mr Paul Giblett—*Secretary*, Mr John Farey.

The conditions and premiums offered last year were read and taken into consideration, and several alterations were made for the year ensuing. The principal of these consisted in reducing the weight of grass-fed steers, Class VII. of last year, to less than 100 stone, and introducing a new Class before it, for oxen of 100 stone or upwards, with two prizes therein of 20 and 10 guineas respectively: the forms of certificates to be sent with the animals in the different Classes were settled, and ordered to be printed on the back of the bill of premiums, for the information of candidates.

It was resolved to choose no more than *three* Judges for awarding the prizes, instead of *five* heretofore chosen; and to leave the description of persons to be chosen (whether breeders, graziers, salesmen or butchers) to the discretion of the future meetings for appointing Judges. Five gentlemen graziers were nominated, and the secretary was directed to write to each, and request to know their willingness to act, in the event of their being chosen as Judges at the next meeting, on the 1st of March, which is fixed for that purpose.

The treasurer reported the state of the funds of the Club, and of the arrears of subscriptions; and directions were given for letters to be written by the secretary to all the members in arrear.

In the afternoon of the first day of the show, about 30 of the members of the Club dined together at the Freemason's Tavern; and, on the last day, the annual dinner of the Club was held at the same place; of which upwards of 130 of the principal agriculturists of the kingdom partook, his Grace the president being in the chair, who, after dinner, publicly adjudged the premiums

as below, noticed the alterations made in the premiums proposed for next year, and gave, as toasts, a number of names and sentiments, ever held dear by enlightened British agriculturists. Lord Somerville, on this occasion, called the attention of the land-owners present, to the expediency which may perhaps occur, his Lordship said, of relinquishing the restrictions in their leases, against the growing of hemp on their farms, in case the interruptions of our trade with the Baltic should continue, and the expected quantity of *sun* hemp from the East Indies should prove inadequate to supply the navy with cordage.

I am, Sir, your obedient servant,

JOHN FAREY, *Secretary.*

12. *Upper Crown-Street, Westminster, 22. January* 1808.

CLASS I.

For Oxen or Steers of the Herefordshire Breed, weighing 120 *Stones* (of 8 lib.) *or upwards, which have worked Two Years at least.*

PRIZES *of Thirty Guineas.—Mr William Flowers's* deep red Hereford Ox.

According to the certificate of *Mr Flowers* of Hardwick, Bucks, and the attestations of *Mr Michael Brooks*, and *Mr John Watkins* also of Hardwick, this ox was bred by *James Wallwyn Esq.* of Marshmastall, near Ledbury, Herefordshire; was worked two years preceding the 11th of October 1806, and turned off from work in good store condition: he was put up to stall on the 14th September 1807, having eaten no corn or cake previous to that time. From the 1st of October till the 30th November 1807, he ate 9 cwt. 70 lib. of hay, and 420 oil cakes.

The return from *Mr J. Dobits*, butcher, of No. 46, Shoreditch, who killed this ox, states the dead-weights as follows, viz.

	st.	lib.
Carcase or quarters - - -	210	3
Hide and horns - - - -	16	0
Head, tongue and pluck - -	16	2
Entrails and contents - - -	45	7
Blood - - - - - - - - -	10	1

Mr William Flowers's Hereford Ox, which came as a Companion to the above.

The return from *Mr William Browning*, butcher, of Leather Lane, who killed this ox, states the dead-weights as follows, viz.

	st.	lib.
Carcase or quarters - - -	167	4
Loose fat - - - - - - -	21	6
Hide and horns - - - - -	15	0
Head, pluck and feet - - -	14	1
Entrails (empty) - - - - -	12	1
Blood - - - - - - - -	5	0

CLASS V.

For Oxen or Steers of the Devonshire Breed, weighing 120 *Stone or upwards, that have been worked Two Years at the least.*

Mr Martin Webber's Two Devonshire Oxen, No. 1. and No. 2.

According to the certificate of *Mr Webber* of Ilchester, Somersetshire, and the attestations of *Mr Matthew Hobbs*, *Mr J. Bryant Phelps*, and *Mr William Ireland*, these oxen were bred by *Mr Surrage* of Chepstable, and worked by him for three years ending the 25th of February 1807: they were bought of him at Wevelscombe market on the next day, were then five years old, and very lean: they lay at grass until the 1st of October; from which time, till the 30th of November, they ate 3290 lib. of hay, and have since travelled 170 miles: they have had no corn or cake.

The return from *Mr John Lomas*, butcher, Kensington, who killed the ox No. 1, states the dead-weights as follows, viz.

	st.	lib
Carcase or quarters	153	6
Loose fat	29	0
Hide and horns	11	6
Head and tongue	4	1
Feet	3	2
Heart and lights	2	3
Liver and melt	1	7

The return from *Mr John Lomas*, butcher, Kensington, who killed the ox No. 2, states the dead-weights as follows, viz.

	st.	lib.
Carcase or quarters	141	0
Loose fat	23	5
Hide and horns	10	2
Head and tongue	3	6
Feet	2	7
Heart and lights	2	1
Liver and melt	2	2

CLASS VI.

For Oxen or Steers of any mixed Breed, weighing 120 *Stone or upwards, that have been worked Two Years at the least.*

PRIZE *of Twenty Guineas.—Mr Samuel Chandler's* French and Devon Ox.

According to the certificate of *Mr Chandler* of Moreton, near Aylesbury, Bucks, and the attestations of *Mr Richard Griffin*, and *Mr Henry Chandler*, this ox was bred by *Mr Greenal* of Milcote, in Warwickshire, from a French bull belonging to *Mr Thomas Crook* of Tytherton, Wilts, and a Devonshire cow; he is six years old, was worked two years, until the wheat sowing was finished

finished in October 1806, and was sold by Mr Greenal in the beginning of April 1807 in store condition, from very inferior hay on which he had been kept. He was put to grass on the 10th of May, and continued until the 1st of October; from which time, till the 30th of November, he consumed 972 lib. of hay, and 180 linseed cakes.

The return from *Mr Philip Reynolds*, butcher, No. 123, High-Street, Borough, who killed this ox, states the dead-weights as follows, viz.

	st.	lib.
Carcase or quarters	136	2
Loose fat	24	3
Hide and horns	10	6
Head and tongue	5	3
Feet	2	6
Heart, skirts, sweetbread, melt, kidneys	2	4
Tripe (without fat), feck, reed, liver and gall, lights, bladder, entrails	9	2
Contents of entrails	5	5
Blood	6	6

CLASS VII.

For Oxen or Steers of any Description, under the Weight of 120 *Stone, whether worked or not, fed without Corn or Cake.*

PRIZE *of Ten Guineas.—Mr Samuel Chandler's* Black Scotch Highland Ox.

According to the certificate of *Mr Chandler* of Moreton, near Aylesbury, Bucks, and the attestation of *Mr Richard Griffin*, and *Mr Henry Chandler*, this ox was purchased in a lean state, in the autumn of 1806; lay out in a pasture during the whole of the following winter, without any fodder; continued at grass till the 10th of October 1807; since which time he has had hay and Swedish turnips.

The return from *Mr Philip Reynolds*, butcher, of No. 123, High-Street, Borough, who killed this ox, states the dead-weights as follows, viz.

	st.	lib.
Carcase or quarters	81	4
Loose fat	10	0
Hide	8	1
Head and tongue	4	1
Feet	2	0
Heart, skirts, sweetbread, melt, kidneys	1	4
Tripe (without fat), feck, reed, liver and gall, lights, bladder, entrails	7	0
Contents of entrails	6	0
Blood	4	4

CLASS IX.

For One-Year Old long-woolled Wether Sheep, fed without Corn or Cake.

PRIZE *of Ten Guineas.*—*Mr Gilbert Maltby's* three, Shearling, new Leicester Wethers.

According to the certificate of *Mr Maltby* of Hoveringham, Nottinghamshire, these sheep were bred by him, from a ram hired of Mr *Nathaniel Stubbins* of Holmpierpoint, Notts; are from nineteen to twenty-one months old, and have been kept upon grass, turnips and cabbages only.

The return from *Mr William Jennings*, butcher, Aldersgate Street, who killed these sheep, states the dead weights as follows, *viz.*

	Sheep, No. 1. st.	lib.	*Sheep, No.* 2. st.	lib.	*Sheep, No.* 3. st.	lib.
Carcases or quarters, and heads	16	6	16	2	19	1
Loose fat - -	1	6¼	1	3¼	1	3¼
Skins - - -	2	0¼	2	4¼	2	4
Plucks (heart, liver, and lights)	0	4¼	0	4¾	0	5
Entrails (empty) - -	0	5	0	7½	1	2¼
Blood, contents of entrails, and loss in killing - -	2	2½	2	4½	2	2½
Totals of the above -	24	1	24	3	27	2
Live weights, just before slaughtering -	24	1	24	3	27	2

Rev. *Thomas Plaskett's* three, Shearling, new Leicester Wethers.

According to the certificate of the Reverend Mr *Plaskett* of Weston House, near Thame in Oxfordshire, these sheep were bred and fed by him, and are one year old: from the 1st of May to the 20th of September, they ran in the same pasture (old turf) with beasts of different descriptions; from that time they fed in an eddish (old turf) until the 20th of November, when they were confined to one-fourth of an acre of the same, and supplied with 63 lib. of hay, and 420 lib. of turnips, to the 6th of December.

The return from *Mr Henry King*, Newgate Market, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1. st.	lib.	*Sheep, No.* 2. st.	lib.	*Sheep, No.* 3. st.	lib.
Carcases or quarters, and heads	15	2	14	6	14	0
Loose fat - - -	1	4	1	6	1	6
Skins - - -	2	0½	2	2	1	5
Plucks (heart, liver, and lights)	0	4¼	0	4¼	0	4¼
Entrails and contents -	1	6¼	1	5¼	1	4
Blood, and loss in killing -	1	0½	0	7	0	6½
Totals of the above -	22	2	21	7	20	2
Live weights, just before slaughtering -	22	2	21	7	20	2

Mr Robert Mitchel Robinson's three Shearling, new Leicester Wethers.

According to the certificate of *Mr Robinson* of Church-Hall, Kelvedon, Essex, these sheep were bred by him on his farm in Witham: were one year old in April last: for more than the last eight months they have ate nothing but grass, and never had any corn or cake.

The return from *Mr Arrowsmith*, butcher, King's Street, Bloomsbury, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters, and heads	17	0	16	2	14	4
Loose fat - -	2	4¼	1	6¼	1	4¼

CLASS X.

For Two-Year Old long-woolled Wether Sheep, fed without Corn or Cake.

PRIZE *of Ten Guineas.*—Reverend *Thomas Plaskett's* three, Two-Shear, new Leicester Wethers.

According to the certificate of the Reverend *Mr Plaskett* of Weston House, near Thame in Oxfordshire, these sheep were bred and fed by him, and are two years old: from the 1st of May to the 20th of September, they ran in the same pasture (old turf) with beasts of different descriptions; from that time they fed in an eddish (old turf) until the 20th of November, when they were confined to one-fourth of an acre of the same, and supplied with 63 lib. of hay and 420 lib. of turnips, to the 6th of December.

The return from *Mr Henry King*, Newgate Market, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters, and heads	18	4	18	7	18	4
Loose fat - -	1	5¼	1	4¼	2	1
Skins - - -	2	5	2	4¼	2	5
Plucks (heart, liver, and lights)	0	5	0	4¼	0	4¼
Entrails and contents -	1	3	1	4	1	3
Blood, and loss in killing -	1	0¼	1	0	0	7¼
Totals of the above -	25	7	26	1	26	1
Live weights, just before slaughtering -	25	7	26	1	26	1

Mr Robert Mitchel Robinson's three Two-Shear new Leicester Wethers.

Accordi

According to the certificate of *Mr Robinson* of Church-Hall, Kelvedon, Essex, these sheep were bred by him on his farm in Witham: the sheep No. 1. was two years old in the beginning of April last, the other two were yeaned twins in the same month, by a shearling ewe, who brought them up: for more than the last eight months, they have ate nothing but grass, and never had any corn or cake.

The return from *Mr Arrowsmith*, butcher, King's Street, Bloomsbury, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters, and heads	18	1	16	5	16	5
Loose fat - -	2	2¾	2	0¼	1	6¾

CLASS XI.

For One-Year Old, short-woolled, Wether Sheep, fed without Corn or Cake.

PRIZE *of Ten Guineas.*—*Mr Henry King junior's* three, One-Shear, South Down Wethers.

According to the certificate of *Mr Henry King, junior*, of Plaiston, in Essex, and the attestation of *Mr Henry King, senior*, these sheep were bred by *Mr John Ellman* of Glynd in Sussex; were bought of him lambs, in October 1806; since which they have grazed in the open marsh, without shelter, and have had nothing but grass.

The return from *Mr Henry King, senior*, Newgate Market, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters, and heads	12	5	11	5	12	2
Loose fat - - -	2	0	1	5¼	1	2
Skins - - -	1	4	1	4	1	3
Plucks (heart, liver, and lights)	0	4¼	0	4	0	4
Entrails and contents -	1	4¼	1	2¼	1	2
Blood, and loss in killing -	1	0¼	0	6¾	0	6
Totals of the above	19	2	17	4	17	3
Live weights, just before slaughtering -	19	2	17	4	17	3

His Grace the *Duke of Bedford's* three, One-Shear, South Down Wethers.

According to the certificate of *Mr Thomas French*, bailiff on His Grace's farm at Maulden in Bedfordshire, and the attestation of

of *Mr John Newman*, these sheep were bred and fed on the above farm, and had neither corn nor cake.

The return from *Mr Paul Giblett*, butcher, No. 138, New Bond Street, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No. 2.*		*Sheep, No. 3.*	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters -	11	5	11	5	11	7
Heads - -	0	4¼	0	4¼	0	4
Loose fat - - -	1	6	2	0	2	0
Skins - -	1	5	1	3	1	4
Plucks (heart, liver, and lights)	0	3	0	4	0	3
Entrails (empty) - -	1	1	1	0	1	1
Blood, contents of entrails, and loss in killing - -	1	1¼	1	2¼	1	2
Totals of the above -	18	2	18	3	18	3
Live weights, just before slaughtering -	18	2	18	3	18	5

CLASS XII.

For Two-Year Old, short-woolled, Wether Sheep, fed without Corn or Cake.

PRIZE *of Ten Guineas.*—His Grace the Duke of Bedford's three, two-shear, South Down Wethers.

According to the certificate of *Mr Thomas French*, bailiff on his Grace's farm at Maulden, in Bedfordshire, and the attestation of *Mr John Newman*, these sheep were bred and fed on the above farm, and had neither corn nor cake.

The return from *Mr Paul Giblett*, butcher, No. 138., New Bond Street, who killed these sheep, states the dead-weights as follows, *viz.*

	Sheep, No. 1.		*Sheep, No. 2.*		*Sheep, No. 3.*	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters - -	12	5	12	4	13	5
Heads - - -	0	4¼	0	4¼	0	4¾
Loose fat - - - -	2	1	2	0	1	7
Skins - - -	1	6	1	4	1	5
Plucks (heart, liver, and lights)	0	3	0	3	0	3
Entrails (empty) -	1	0	0	6	1	0
Blood, contents of entrails, and loss in killing -	1	3¼	1	3¼	1	5¼
Totals of the above -	19	7	19	1	20	6
Live weights, just before slaughtering -	19	7	19	1	20	6

Charles

Charles Callis Western, Esq., three, two-shear, South Down Wethers.

According to the certificate of *Mr Western*, of Felix Hall, near Kelvedon, Essex, and the attestation of *William Church*, his shepherd, these sheep were bred by him, about the latter end of February 1805, although two of them show six teeth: They have not been followed by lean stock, when eating coleseed or turnips, but were treated as the other fatting sheep, and have eaten neither corn nor cake.

The return from *Mr Henry King*, Newgate Market, who killed these sheep, states the dead-weights as follows, viz.

	Sheep, No. 1.		*Sheep, No.* 2.		*Sheep, No.* 3.	
	st.	lib.	st.	lib.	st.	lib.
Carcases or quarters, and heads	12	1	11	1	12	2
Loose fat - -	1	6	1	5	2	0¼
Skins - -	1	6¼	1	5	1	3¼
Plucks (heart, liver, and lights)	0	4¼	0	3¼	0	4¼
Entrails and contents -	1	2	1	1	1	1¼
Blood, and loss in killing -	0	6	0	6¼	0	6¼
Totals of the above -	18	2	16	6	18	2
Live weights, just before slaughtering -	18	2	16	6	18	2

CLASS XIII.

For Pigs under Two Years Old.

PRIZE *of Ten Guineas.*—Mr John Roads's 15 months old black and white Berkshire Pig.

According to the certificate of *Mr Roads*, Aston Abbots, near Aylesbury, Bucks, and the attestations of *Mr John Westcar* of Creslar, *Mr William Roads* of Aston Abbots, and *Mr John Westbrook*, this pig was bred by *Mr John Westbrook* of Bisham, in Berkshire, in the beginning of September 1806, and has been fed on skimmed milk, with the addition of only 4 bushels of barley meal.

The return from *Mr David Davies*, pork-butcher, NO. 483., Oxford Street, who killed this pig, states the dead-weights as follows, *viz.*

	st.	lib.
Carcase - -	52	2
Head - - -	3	5¼
Fat (crow, caul, &c.)	1	6
Feet - -	0	8¼
Pluck - -	1	1
Entrails (empty, with fat)	0	7

Mr

Mr John Roads's Berkshire Pig, which came as a companion to the above.

The return from *Mr David Davies*, pork-butcher, NO. 433., Oxford Street, who killed this pig, states the dead-weights as follows, *viz.*

	st.	lib.
Carcase - -	41	5
Head - -	3	5
Fat (crow, caul, &c.)	1	3
Feet - -	0	4
Pluck - - -	0	7
Entrails (empty, with fat)	0	5½

CLASS XIV.

For Pigs under One Year Old.

PRIZE *of Ten Guineas.—Mr William Slow*'s 9 months old black and white high Suffolk Pig.

According to the certificate of *Mr Slow*, shepherd to Earl Cowper, of Cole Green, near Hertford, this pig was bred by *Mr Smith*, of Coats Farm, in Yardley, Herts, on the 9th of March 1807: It was sold to *William Slow* on the 6th of June, and has since been fed, first with potatoes and pollard, then with barley meal, and lastly with peas, pollard and potatoes; in the whole, 8 bushels and 1 strike of pollard, 4 bushels of potatoes, 5 bushels of barley meal, 2 bushels of peas.

The return from *Mr Edward Bates*, butcher, Goswell Street, who killed this pig, states the dead-weights as follows, *viz.*

	st.	lib.
Carcase - - -	27	1
Head and feet - - -	2	1
Fat (crow, caul, &c.) and pluck - -	1	5¼
Entrails and contents - -	1	2¾
Blood, 7 lib.; hoofs, hair, and loss in killing, 1 lib.	1	0
Total of the above -	33	2
Live-weight, just before slaughtering -	33	2

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Kincardineshire Resolutions on the Property Tax.

SIR,

As your Magazine is the only work of the kind in Scotland, which forms a bond of union among the farming interest, the members of the meeting, at which the enclosed resolutions

lutions were adopted, are desirous that a copy of them and their minutes should be transmitted to you; and they trust that you will give to them that publicity and circulation which you may judge best for promoting the object of the meeting, and for combining together the whole occupiers of land in Scotland, in making a respectful and moderate application to Government, for the purpose of endeavouring to procure redress of the grievance which they labour under from the property act, as it presently exists. I am, Sir, your most obedient servant,

WILLIAM YOUNG.

Dunnottar, by Stonehaven, Jan. 23, 1808.

PROPERTY TAX ON FARMERS.

Laurencekirk, January 11, 1808.

At a meeting of FARMERS in the County of KINCARDINE, called by public advertisement, to concert proper measures for endeavouring to obtain redress of the grievances laboured under by the Occupiers of Land in Scotland, in consequence of the mode of assessment applicable to their case, under the existing law, imposing a Tax on the Profits arising from Property, Professions, &c.

Dr WILLIAM YOUNG *of Fawsyde, chosen Preses.*

THE meeting having maturely deliberated on the important subject, for the consideration of which they were convened, fully concurred in the universal approbation of the general principle of the Property Tax; and, as the agricultural interest, which contributes very largely to our flourishing revenue, has hitherto borne its burdens without a murmur or complaint, this meeting were anxious to have it clearly understood, that they are still most willing to contribute, with cheerfulness, their just proportion of this tax; and that their only object is to obtain an alteration of the erroneous rule of estimating the profits of farmers according to their rents.

It was obvious to this meeting, that the rate of land rent being governed by local circumstances, farms of the same extent and intrinsic value must differ in amount of rent payable to the landlord, according as they are different with respect to local advantages.

By thus adapting the rate of rent to local situation, the profits of farmers are equalized and proportioned to their capital; and it therefore can hardly ever happen that two tenants, paying similar sums to the landlord, are on an equality as to the amount of their profits.

The profits of a farmer must, in some measure, also depend on the terms of his agreement with the proprietor of the lands; and

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an assessment of rent must, of course, bear lightest on him who has been most fortunate in his bargain, and pays comparatively least rent to his landlord.

For these, and many other reasons that might be assigned, the rents of lands do not afford a just criterion for estimating the profits of the occupiers; and an assessment proceeding on it is found to be unequal in its operation among farmers themselves, while it places them, collectively, in a situation less favourable than that of any other class of persons liable to the tax.

The profits of farmers are, at least, as fluctuating and precarious as those of mercantile persons, who are taxed only according to the amount of their gains, after deducting any losses they may sustain in the course of business; and if no profits remain on their transactions, they are justly exempted from taxation.

It often occurs, from the failure of crops, the loss of live stock, the fall of markets, the rise of the price of labour, and the variety of casualties incident to the business of a farmer, that occupiers of land reap *no profits whatever*; yet, such is the existing mode of assessment applicable to their case, they are subjected to a fixed sum of tax, in the same manner as if their gains were both *certain* and *invariable*.

In estimating the profits of mercantile persons, their capital is properly excluded from the account: but, in Scotland, the farmer is, in many cases, obliged to contribute a proportion of his *capital*, under the description of *gains*. For although it most commonly happens that lands in this country are let to be improved, and in such cases, until his improvements be completed, the tenant, instead of drawing any yearly profit, must, annually, sink a part of his capital; yet, during all this time, he is, by the present rule of assessment, taxed for profits which do not exist; and at the expiry of the first seven years of his lease, when he only begins to get a return of what he has laid out on his farm, he is liable in an increase of tax proportioned to a hypothetical rent then to be fixed by an assessor, and which will fall to be enhanced by the capital expended in rendering the lands productive. Thus not only is the farmer deprived of any allowance for the expense of his improvements during the time he is carrying them forward; but afterwards, when he comes to realize his capital, *it* is subjected to an assessment, in the estimated annual value of the farm—under which annual value both his capital and profits are comprehended.

It was, upon the whole, the opinion of this meeting, that, in justice to themselves, and from a regard to the agriculture of this country, which must be materially affected and injured by a continuance of the present erroneous and unequal rule of taxation,

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it is the duty of the farmers in Scotland to use their endeavours to obtain such an alteration of the law, as may provide for their being, in future, assessed according to the actual amount of the profits arising from their business; a mode of assessment which, they conceive, would impose the tax with an equal hand, and yield as much revenue as that now practised. The meeting was aware that it has been urged, among other objections to this measure, that farmers are not in the habit of keeping such regular accounts as merchants. Without acknowledging the fact on which this objection is founded, the meeting conceived, that, if it did exist, it could be easily obviated, by making *rent a criterion of profit*, in the case of those who cannot show correct accounts of their transactions.

It was therefore unanimously RESOLVED,

1. That this meeting will cooperate with the farmers in other counties of Scotland, in any general measures that may be thought adviseable for obtaining the desired alteration of the law.

2. That a copy of these minutes be transmitted to the members of Parliament for the county, and for the district of burghs with which the county is connected, with a request that they will use their influence in promoting the object of this meeting.

3. That a copy be also transmitted to the Convener of the county, requesting that it may be laid before the Landholders, at their first meeting, who, it is hoped, will support a measure in which they are so materially interested.

4. That these Minutes and Resolutions be published in the Edinburgh and Aberdeen newspapers, and copies printed for circulation.

(Signed) WILLIAM YOUNG, Preses.

NOTE BY THE CONDUCTOR.

WE take the earliest opportunity of submitting the above judicious resolutions concerning the property tax, as it falls upon farmers, to the consideration of our readers; and, at the same time, as in duty bound, earnestly recommend that similar measures for procuring relief may be adopted in every county. It is honourable to the Kincardineshire farmers to have led the way in such a business; and were their conduct to be generally imitated, a doubt need not be entertained, but that relief would shortly follow. Silence on such an important subject only serves to make the Legislature believe, that the tax, as presently assessed, is not a grievance; but were the evils arising from levying it upon rent to be clearly and distinctly described, it is impossible to think t[hat] a deaf ear would be given, or redress withheld, to those who [are] so burdened. N.

BRANCH

BRANCH II.

Review of Agricultuarl Publications.

Transactions of the Highland Society of Scotland, Vol. III. pp. 629. Edinburgh, Constable & Co. 1807.

Should the territory of Great Britain not be improved to the extent permitted by physical circumstances, the deficiency cannot be attributed to any want of public and private societies, established for the express purpose of benefiting and promoting agriculture in all its branches, either by conferring reward, bestowing advice, or furnishing protection to those concerned in carrying it on. These institutions may be classed under two heads. 1. The societies whose operations are not confined to a local district, but extended over the whole island, or at least a considerable part of it, such as the Society of Arts, &c. in London, the Trustees for Fisheries and Improvements in Scotland, the Bath and West of England Society, the Highland Society; and, though last, yet not least, the National Board of Agriculture. 2. The county and parochial societies, mostly established since agriculture became a fashionable art, and which are so numerous as to set calculation at defiance. In a word, no country in the known world is so liberally supplied with agricultural societies as Great Britain; and was improvement to go forward in a degree proportional with the number of hands engaged in promoting it, our island, in a short time, would wear the face of a terrestrial paradise.

We are quite aware, that several people are disposed to consider these institutions as perfectly harmless, serving in many instances as a decent excuse for a tavern meeting, and as an excellent resource for killing a little time with those who have more of that article upon their hand than they know how to dispose of. Many observations of this kind we have heard; but, without stopping to ascertain their correctness, it may safely be admitted, that there are various obstacles in the way of agricultural improvement, not to be removed by individual strength, though such may be successfully combated and overcome by the joint force of a society of persons leagued together for accomplishing one common object. Nay more, that the collision of sentiment occasioned at such meetings, serves to place the human mind in something like a state of requisition for the public good, whereby latent genius may be drawn forth, and made to act upon a stage, where otherwise it would never have appeared. Leaving

these general reflections, we proceed to examine the volume before us, which contains the Transactions of the Highland Society of Scotland (at present the most popular society in the island) since 1803; and being executed by men of celebrated talents, and well qualified for discharging the tasks respectively undertaken, claims our attention in a greater degree than the generality of agricultural publications.

Passing over the first part of the Introduction (drawn up by Henry MacKenzie, Esq.), as having nothing to do with agricultural improvement, we observe, with pleasure, an account of the several public works undertaken at the recommendation of the Society, which, when completed, must necessarily prove of lasting advantage to the inhabitants of the Highlands. We are not quite sure, however, whether the legislative regulations respecting emigration, enacted at the desire of the Society, deserve the like approbation. But be this as it may, the other objects which have engaged the notice of the Society, may, in general, be estimated as of the first importance towards national welfare. With the exceptions of the encouragement bestowed upon the compilation of a Gaelic Dictionary, the attempt to investigate the ancient Highland music, and to inquire concerning the authenticity of Ossian's Poems, we regard the labours of the Society, during the years 1804, 5, 6, as entitling them to the gratitude of their countrymen. We have made these exceptions, considering every endeavour to keep the inhabitants of the Highlands separate and distinct from their Lowland brethren, to be unwise and impolitic. The Highlands are not to be improved, unless the character and manners of the inhabitants are completely changed; therefore, every attempt to support and preserve ancient practices and customs, however well meant, must serve to retard improvement, and perpetuate the inconveniences of the present system. At any rate, what has the authenticity of Ossian's Poems to do with the improvement of the Highlands? Such an inquiry may be very fit for a learned individual, but is unworthy of the time and attention of such a respectable Society. Ossian's Poems, to be sure, whoever composed them, deserve to be admired; but with their authenticity the improvement of the country is not in the slightest manner connected.

The first essay in this volume is, *On the Natural History of the Herring*, by Archibald Drummond, Esq. This species of the finny tribe has been long considered as a valuable article, both for home consumption and exportation; and bounties to those who adventured in the catching and curing of herrings, have been distributed to an amount sufficient to have brought the whole waste land of the island into a condition approximating to that of

garden

garden culture. Notwithstanding the public support lavishly bestowed, we are afraid that the herring fishery is not one step advanced since the union of the two kingdoms; therefore consider it as a trade which ought to be left to stand or fall according to its own strength. In short, the herring fishery is a business of such a variable and fluctuating description, that it cannot be forced beyond its natural bounds by bounties, however liberally bestowed. These points are not discussed by Mr Drummond, who chiefly confines himself to the natural history of the herring, concerning which he furnishes a concise account, both amusing and interesting.

Mr Drummond is for relinquishing, in some measure, the loch, bay and creek fishery, where hitherto the business has chiefly been carried on, and for prosecuting the deep-sea fishery, which he thinks has every thing to recommend it. Here we must differ with him, believing that the inshore fishery must always be most profitable, because most suitable to the genius and stock of the people concerned in the trade. Besides, the boat-fishing answers best in another point of view, because those engaged in it can, in the absence of herring, betake themselves to other branches of fishery, which cannot with the like facility be resorted to by the people employed in busses. Mr Drummond hints at rivalling the Newfoundland fishery, which, as far back as 1772, is said to have employed 25,000 men, including boys. The only difficulty which occurs to us, and we acknowledge it to be a very simple one, is, where people would be got to eat all the herrings caught under such an extension of the fishery. We believe that the market is tolerably well supplied, and at moderate rates, even as matters go; but were such an extension to take place as hinted by Mr Drummond, the trade would inevitably be ruined. Indeed it has seldom been a flourishing one, as might easily be shown were the point in the least degree problematical.

The second essay is *on Peat, its Properties and Uses*, by Mr Naismith at Hamilton. On this subject much has recently been written, and much will continue to be written, so long as peat earth forms a prominent character among Scottish soils. Mr Naismith thinks, and very justly, that the best recipe for making a peat earth soil capable of carrying crops of corn and grass, is to cover it with other earth, such as clay, loam, gravel or till, to the extent of one hundred cubic yards *per* acre, which very likely will be highly useful; but the difficulty seems to lye in procuring earth in such situations that would answer the purpose. Granting it could be procured, we have some difficulty of admitting his calculations relative to the expense, and suspect the whole to

be founded on hypothesis, and not on actual experiment. We shall make an extract, and offer a passing observation.

'I have thus attempted to examine the nature and compoſition of that unſeemly ſubſtance by which a large portion of the earth's ſurface in theſe regions is laid waſte—inveſtigating its peculiar qualities, and the cauſes of its natural ſterility. I have alſo endeavoured to ſhow that it is reclaimable, and to point out the means by which its latent fertility may be brought into action. The means preſcribed are neither intricate nor impracticable; and the advantage which would accrue from the execution is great and obvious. The expenſe of cultivation will be leſs or more according to ſituation and circumſtances: but we ſhall here, by way of illuſtration, attempt a probable computation, which, judging from experience, it would hardly ever exceed.

'The coſt of draining, levelling, and making roads, in a field of any extent, when divided by the acres it contained, would ſcarcely amount *per* acre to - - - - - L. 3 0 0

Lifting, carrying, and ſpreading 100 cubic yards of earth, at 6d. *per* yard - - -		2	10 0
Firſt year's digging over - - - -		2	5 0
60 bolls quicklime, with carriage and ſpreading, ſuppoſe 1s. *per* boll * - - - -		3	0 0
12 pecks ſeed oats, at 24s. *per* boll - - -		0	18 0
Harrowing and cutting tough clods - -		0	10 0
Digging over the ſecond and third year, at 1l. 6s. yearly		2	12 0
Seed for theſe two years - - -		1	16 0
Harrowing for ditto - - -		0	5 0
Graſs ſeeds to be ſown the laſt year, ſuppoſe to coſt, collecting, &c. - - - -		1	1 0
Repeated rollings the ſecond and third year, and breaking the unreduced clods, the laſt - - -		1	10 0
Thus the outlay on each acre for three years will be - L.		19	7 0

'Let us now ſee what may be the probable return. The three years cultivated crops may be reaſonably expected to be worth at leaſt, 7l. 10s. at an average each.

Inde for the three - - L.	22	10	0
The firſt crop of graſs in hay, ſuppoſe worth	4	0	0
The ſecond and third crops of graſs in paſture, at 30s. each - - -	3	0	0
		29	10 0
Balance in favour of the cultivator - L.		10	3 0

'According

'* In places where, from diſtant carriage and other circumſtances, the price of lime is too high, clay, burnt in proper kilns with peat fuel, might ſupply its place. Brick duſt and lime ſeem to have ſimilar effects on graſs ground. Both kill moſſes, and promote the growth of white clover and other ſweet herbage.'

'According to this moderate computation, the cultivator is remunerated for his labour and attention: and what was heretofore a nuiſance, is converted into a valuable field. The firſt difficulties of cultivation being ſurmounted, its future culture will be leſs expenſive, perhaps, than that of any other ground; and as it will ſtill be improving in fertility, it will make more bountiful returns.

'The advantages which the public would derive from converting ſterile peat into fertile fields, are perhaps ſtill more conſiderable than the profit of individuals. I am not poſſeſſed of *data*, by which any judgment could be formed of the extent of peat fields in the Britiſh iſlands; but they abound ſo much in many places, that it would probably not be extravagant to ſuppoſe, that if the whole of that ſubſtance were cultivated to the higheſt pitch of which it is capable, it might afford proviſions to half a million of people; and if induſtry were exerted to ſpread peat, prepared as manure, over all the hard ſoils lying within two miles of the different beds of that ſubſtance, an addition of food, equally great, would undoubtedly be thus obtained. This is a ſubject worthy of the attention of the Legiſlature. Here an antidote againſt emigration is to be found. The labour requiſite to convert the peat of the country to the uſes to which it is applicable, would furniſh employment for all thoſe whom an unfeeling policy drives from ſmall farms, in order to make great ones, provided means were found to make it their intereſt thus to apply their labour.' p. 82–85.

We doubt much whether a cubic yard of earth can be digged and carried even to the moderate diſtance of three hundred yards for ſixpence; at leaſt, we know that a compound midden this ſummer coſt us more, though at no greater diſtance. It occurs alſo, that intereſt upon the outlays ought to have been added, which, in fact, is preciſely the ſame to the owner as money expended. It alſo deſerves attention, that a ſingle halfpenny is not allowed to the improver for ſubſiſtence during theſe improvements; but this is an error ſo common amongſt calculators, that it need not be inſiſted upon. We add another obſervation, and leave the inference to Mr Naiſmith. Suppoſe ſuch ſoils as are under conſideration, to be worth ten, or even fifteen pounds per acre, when in their natural ſtate, and that they require the ſum of nineteen pounds ſeven ſhillings Sterling to make them carry corn or artificial graſſes, can it be expected that they are to be improved by a common farmer, who rarely poſſeſſes longer than nine, ten, or twenty-one years, from the outſet? To expect any ſuch thing, would be fooliſh and ridiculous; therefore, the taſk of executing ſuch improvements, ſhould, in every caſe, devolve upon proprietors, eſpecially as the value of their property would thereby be doubled or tripled. It would be a pretty affair, indeed, were a farmer to double or triple the natural value of his landlord's property, and, at the end of his leaſe, have either to remove from the premiſes, or pay a rent

proportioned to the extent of the improvement which he had accompliſhed! Rural writers ſhould not only recommend what is profitable, but alſo what is practicable, otherwiſe their advices may be altogether ineffectual.

The next Eſſay, *On the Influence of Froſt and other varieties of bad Weather on the ripening of Corn*, by the late Dr Benjamin Bell, is a moſt valuable performance, and, in ſubſtance, corroborates the opinions delivered when Sir Joſeph Banks's Eſſay on the Diſeaſes of Wheat was reviewed in this Magazine. After deſcribing various experiments, which appear to have been conducted with ſingular attention, Dr Bell draws a number of appropriate concluſions, which we regret that our limits will not permit us to lay before our readers. The following ones, however, will ſhow his ſentiments on the queſtion, whether light or imperfect grain ſhould be uſed for ſeed.

'When light ſeed is made uſe of, the crops more readily ſuffer with blight and other diſeaſes; and it appears that many diſeaſes of plants, eſpecially ſuch as give riſe to the generation of inſects, are particularly apt to ſpread and communicate the contagion to plants that are weak; which, like animals in a ſtate of debility, do not ſo readily reſiſt contagion, nor the formation of thoſe vermin by which they are moſt apt to be deſtroyed, as thoſe that are ſound and vigorous.

'15. This, accordingly, ſhould be conſidered as a powerful motive for uſing only the beſt corn for ſeed, a maxim that cannot be too ſtrongly inculcated; for as the opinion, which I have mentioned prevails with many, of all ſeeds that vegetate being nearly equally fit for the production of crops, they frequently make uſe of the weak part of their corn for ſeed, and convert all the beſt of it into flour or meal; and thus, for a temporary advantage, continue to perpetuate the production of crops that are both ſmall in quantity, and of very inferior quality.

'16. For the prevention of theſe hurtful conſequences, none but the beſt ſeed of every kind ſhould be ſown: with this view, farmers ſhould not only procure ſeed that has been well ripened, but ſuch as has been well kept, and never injured by froſts, ſnows, or rains. It would alſo be much for their intereſt, to waſh the whole of their ſeed corn in ſtrong brine; not only their wheat, but their barley and oats, as well as their beans, peas, and tares; for nothing renders corn ſo fit for ſeed, as this operation; when properly done, it not only carries off all the light ſeeds, but alſo the ſeeds of a great many weeds, which cannot, in any other way, be ſo completely ſeparated from it.' p. 106, 107.

The fourth paper contains a deſcription of a lime-kiln built in 1801 by General Dirom at Mount Annan. This is a ſcientific performance; but we are not certain that the kiln therein recommended, will prove advantageous to the burners of lime. To ſave fuel is the chief improvement propoſed to be gained; and, no doubt, this is a matter of importance; but then inconveniences attend the uſe of it, which go far to counterbalance any ſaving

ing of fuel. Some people may be diſpoſed to reekon the circumſtance candidly mentioned by the General, of his tenant having declined to work the kiln, after a trial of two years, as a deciſive proof, that it was inferior to thoſe erected upon the old plan; and were they to do ſo, perhaps they would not be far miſtaken.

The fifth Eſſay gives an account of the improvement of a tract of barren ground covered with heath in an elevated ſituation in the county of Peebles, by Mr James Allan. The only improvement we can diſcern to have been executed, was ſpreading twenty bolls of ſhell-lime on each acre of the heath after being once ploughed, though, no doubt, the elevation and ruggedneſs of the ſurface rendered theſe operations not eaſily executed.

Mr Hay's account of the improvement of a moor near Tranent, Eaſt-Lothian, is next preſented. This moor, which conſiſted of 37 acres, originally formed a part of the Winton eſtate, and had been uſed as an outfield range for time immemorial. In all probability a particle of lime had at no time been adminiſtered; therefore, it preſented a promiſing object for improvement; and, from perſonal obſervation, we are free to ſay that the meaſures uſed by Mr Hay to bring it into culture, were excellently calculated to inſure complete ſucceſs. After clearing it of whins, the ground was ploughed in November 1799; croſs-ploughed July 1800; break-harrowed in June 1801; ploughed thereafter into 15 feet ridges, limed at the rate of 60 and 70 barley bolls of ſhells (360 and 420 Wincheſter buſhels) per Scotch acre; ploughed a fourth time in September and October that year; encloſed with ditch, hedge and paling through the winter, and ſown with oats and graſs ſeeds in March 1802. The oat crop was good, producing at the rate of 10 bolls (60 buſhels) per Scotch acre, or 48 buſhels per Engliſh acre; and the ſucceeding crop of hay averaged 147½ ſtones per Scotch acre, or about one ton and three hundred weight per acre Engliſh meaſure. The taking a hay crop on ſuch land ſeems the only objectionable meaſure; for it was helping to undo the improvement that had been made; and, after all, we think that graſs ſeeds would have ſucceeded better, and remained longer in the ground, had their ſowing been delayed till after a ſecond fallow. A crop of grey peas, followed by oats, might have been taken. Then, had the land been fallowed, and a ſlight dreſſing of dung applied, graſs ſeeds, accompanying barley, might almoſt, for a certainty, have been depended upon.

Mr Hay's ſtatement of outlays is given with preciſion; and he does not neglect to charge intereſt yearly on his outlays, like Mr Naiſmith, as already noticed. He avoids, however, charging any thing by way of rent, though, certainly, the ground was worth ſomething; and probably he eſtimates his firſt ploughing far too

low, at twelve ſhillings, when, in fact, it might coſt twenty. He alſo ſeems to have given his own perſonal trouble into the bargain; though, aſſuredly, the attention ſo ſedulouſly beſtowed, was deſerving of a conſiderable reward. Still, independent of theſe omiſſions, the improvement was highly beneficial; and ſhows what may be done by a ſpirited proprietor, when provided with a diſcerning and active overſeer. The fact is, if the land did not pay more than one ſhilling per acre to the former poſſeſſor, and was worth 50l. *per annum* in 1803 for a leaſe of 19 years, that the fee-ſimple of the property was increaſed from fifty-five pounds ten ſhillings, taking it at thirty years purchaſe, to fifteen hundred pounds, while the outlay on which that increaſe of value was gained, amounted to 747l. 13s. 7d., leaving a nett profit of 696l. 16s. 5d. This is the true way of calculating the worth of the improvement made; whereas, Mr Hay ſtrikes his balance, after taking a crop of oats and a crop of hay, which magnifies the profit conſiderably. N.

(*To be continued.*)

A Letter on the Nature, Extent and Management, of Poor Rates in Scotland; with a Review of the Controverſy reſpecting the Abolition of Poor Laws. pp. 38. Park, Edinburgh; Harding, London, 1807.

The ſubject which this author undertakes to diſcuſs, is of great importance. In a country like this, where wealth and its attendant luxury abound, there muſt always be many poor; for the aggregate wealth of a nation is no ſecurity that all the individuals compoſing it ſhall be rich. Unavoidable misfortune, thoughtleſsneſs, and an abſurd attempt to keep pace with others in the career of expenſe, will be continually reducing ſome to poverty; and their miſery will be the greater in proportion to the riches of the generality. The management of the poor has become, with us, therefore, a concern of great importance, and, as might be expected, of great difficulty. Every writer on political economy, confeſſes the difficulty of the ſubject, attempts to diſcuſs it, expoſes miſtakes and abuſes, ſuggeſts reforms, and, when he has done all, we find ourſelves, ſeemingly, as far from any practical amendment of the ſyſtem as ever. The burden of ſupporting the poor is ſtill increaſing; and it may be fairly queſtioned, whether their condition is becoming more comfortable.

We muſt be underſtood to ſpeak of the Southern diviſion of our iſland; for, in no part of Scotland, can the ſupport of the poor be called a burden; and no where, we believe, is their condition

dition very bad. We are faſt following the ſteps of our Southern neighbours, however, in other reſpects; and it will be well if we take care not to follow their example in this. There ſeems to be ſome danger, at preſent, of an approximation to the condition of England in this matter; and it is this circumſtance which gives to the ſubject of the poor laws a new intereſt in this country, and renders it ſomething more than a mere topic of ſpeculative curioſity.

The ſubject embraces ſuch different intereſts, and addreſſes ſuch oppoſite principles in our nature, that the thing which renders a cool and rational inveſtigation peculiarly neceſſary, makes it extremely difficult. If we could ſuppoſe the poor to write upon it, we may eaſily conceive on what ſide they would arrange themſelves; and when the rich do it, we ought to expect a little prejudice, ariſing from intereſt, to give a colour to their ſentiments. When they, who bear no part of the burden, diſcuſs the propriety of laying it on, they are apt to think too little about its weight; and when thoſe, who carry it, ſpeak, they complain more perhaps than is neceſſary.

In ſettling the primary queſtion, therefore, whether the rich ſhould be compelled by law to provide for the poor, we may naturally expect ſome exaggerated ſtatements, ſome uſeleſs declamation, and ſome ſophiſticated reaſoning on both ſides. The narrow commercial ſpirit which calculates every thing on the principles of profit and loſs, will be for leaving all to diſcretion, left obligation, on the part of the rich, beget ſloth and inſolence on the part of the poor; it can ſee nothing but endleſs fraud and ceaſeleſs importunity, if the law ſhall once lend its ſanction to the claims of the needy. A miſtaken ſpirit of philanthropy, obeying the dictates of feeling rather than of judgment, diſtreſſed at the clamours of the indigent, and ſhocked at the illiberality of many of the rich, runs into the oppoſite extreme, and perceives no danger but that of the poor ſtarving through the cruelty of thoſe who ought to feed them.

The juſt courſe in this, as in all other cases, will not be found in either of the extremes; and he who ſhall be fortunate enough to diſcover it, muſt combine ſeveral requiſites not often to be found in the ſame individual. He muſt poſſeſs a ſound underſtanding, and not an unfeeling heart; he muſt be perfectly acquainted with all the exiſting laws in Scotland on this ſubject; he muſt not be ignorant of that monſtrous maſs of abſurdity and miſmanagement in England; he muſt be able to detect the circumſtances from which the abuſe has proceeded, and ſhow how a compulſory ſyſtem might be eſtabliſhed without leading to the ſame diſorders.

Whether

Whether this author, who has not favoured the public with his name, possesses all these qualifications, we are not able, from the evidence before us, to pronounce. From what we have here, we are led to conclude, that he has given the subject a considerable degree of attention, and that he possesses a liberal and candid mind. This is only the first of a series of letters, in which the subject of the poor laws, as far as respects Scotland, is proposed to be treated. When the author has finished his speculations, we shall make our readers acquainted with the result, and take the liberty, if we see occasion for it, to offer our own sentiments on this important topic.

We shall let the author state his own purpose and plan.

'After considering the difficulties,' he says, 'which you have stated respecting the management of the Poor, in the parish where you reside, I have thought it proper to adopt this mode of communicating to you my observations at full length upon every part of the system of Poor Rates, as established in Scotland. My situation has brought under personal inspection as extensive a view of the various forms which the Poor Laws assume, in the course of their execution, as falls to the lot of most men. At the same time I acknowledge, that though I have made diligent inquiry both into the law and the practice concerning legal assessments for the poor, and have for many years taken my full share in the management of them, there is much that remains confused and unfixed upon this department of public police. Willing to communicate the result of my own experience, I am also desirous to avail myself of the knowledge of others who have had opportunities of making observations upon the same subject; and it has been suggested to me, that the most likely method of attaining this end, would be to publish letters at short intervals, giving time to such as were so inclined, to contribute whatever may seem calculated to furnish complete information, and preclude the embarrassments that arise in the course of management. This seems to be an object of great importance, when it is considered, that assessments for the poor are, from causes to be afterwards noticed, likely 'to become more frequent every year *.' Independent of religious considerations, it is likewise a very interesting concern to every friend of his country, that the poor should have no just reason to complain, and that the labouring classes, who, from their condition, are disposed to sympathize with the indigent, should not be induced, by any inattention or neglect, on the part of their superiors, to regard them with dislike or suspicion. Some years ago, complaints were made by several ministers of the Church of Scotland, that the poor of their parishes were neglected †; and in that part of the country where I live, the number of beggars, since the late years of scarcity, has been gradually

* 'Appendix to Mr Whitbread's Speech on the Poor Laws, by the Rev. Sir Henry Moncrieff.'

† 'Statistical Account of Scotland.'

dually increasing; and this year they seem to exceed all the preceding. These, and a variety of other circumstances, which will occur in the sequel, appear to me to call for a more complete view of the law and the practice relative to the poor in Scotland than has yet been given, or at least than has been contained in any one publication.

'There are three general heads, under which every thing that can be said upon this subject may be arranged. 1. The statutes, with the construction given of them by eminent professional men, and particularly by the decisions of the Supreme Court. 2. The mode of managing the assessments, and all the concerns of the poor, according to general practice, where the statutes or decisions have not made any distinct provisions. 3. The expediency or inexpediency of Poor Laws, as a question of political economy.

'According to the plan I have adopted, for communicating all that I have learned by reading or practice, or may derive from the communications of others, I cannot promise to follow the arrangement now stated so perfectly as may be expected. At the close of my letters, however, this defect may be fully remedied, by such a distribution of the contents as shall bring within a short compass a clear view of every thing contained in them.' p. 3—5.

At the end of this letter, the author solicits the correspondence of those who are qualified to aid him in elucidating the subject.

'It is the intention of the author to continue the discussion of this important subject. He therefore solicits *communications*, addressed (*post paid*) to the publisher; and will expect his correspondents to be frank and explicit. Such as are approved of, will be inserted in an Appendix.' p. 38.

As we are anxious to see the subject completely discussed, we wish the author all success, and shall be happy that he receive such aid as may enable him to render his plan perfect. With regard to the execution of this part, we shall only remark, that his examination of the doctrine of Mr Malthus, in strict conformity with his own plan, as well as in regard to propriety of arrangement in general, would have been better left till he had finished the inquiries to which he proposes to confine himself.

J.

Essays on the Natural History and Origin of Peat Moss: The peculiar Qualities of that Substance; the Means of improving it as a Soil; the Methods of converting it into a Manure; and the other Economical Purposes to which it may be made subservient. By the Reverend R. RENNIE, Kilsyth. Edinburgh, Constable & Co. London, Murray. pp. 233.

PHILOSOPHERS are not at one with regard to the nomenclature of soils. It is plain, however, so far as regards practical and useful

useful purposes, that soils may be classed as clay, gravel, sand, and peat earth; and that to one or other of these soils, the numerous varieties to be found in the British isles are less or more allied, though the degree of affinity betwixt them is, in many cases, difficult to be ascertained. Loam has generally been treated of as an original soil, though we are disposed to view it as an artificial one, produced by the application of calcareous matter and animal and vegetable manures. Even peat earth, may be converted into a soft black loam, and rendered fertile and productive by different processes; such as draining, liming, and mixing it with clay or any other soil, which has a stouter body, or contains a greater portion of vegetable substance. From these circumstances, a degree of confusion prevails respecting the nature and properties of several soils, which renders every description of them more abstruse than at first sight might be expected. Even the admixture of surface and substratum by deep ploughing, augments the confusion, and serves to produce a change in the original soil, of considerable magnitude.

It is only with one of the varieties of soil, however, which we at this time have any business, namely, peat earth, or moss; but when it is considered, that this variety forms the surface of at least one sixth of Great Britain, the subject will appear of such importance as to call for the most minute and serious investigation. After all, we are not sure whether peat earth should be considered as a primary or original soil: we are rather disposed to view it as an artificial one, and produced by certain substances deposited on the surface of the earth. On these points philosophers are greatly at variance, entertaining such discordant opinions, that we are much inclined to think, few of them understand the nature and properties of moss, or are acquainted with its origin and history. By one we are told, that peat earth is a primitive soil, and of antediluvian origin. By another, that it is a kind of growing vegetable, or a plant *sui generis*, which continues to grow and increase to an immense magnitude and indefinite age, and may continue growing and increasing, till, like the lean kine of Pharoah, it swallows up and devours all other soils that are in its neighbourhood. By a third, we are informed, that it proceeds from ligneous and aquatic plants, brought into action by the destruction of the immense forests which anciently abounded over all Europe. Our opinion leads us to adopt this hypothesis, because it is supported by the appearance which peat moss generally presents, and by facts which may be gathered concerning the former state and condition of the places where moss is now most predominant. It is indeed truly wonderful, that so little should be known upon a subject confessedly of the greatest importance,

not

not only to the agriculturists of Britain, but also to those of the whole world. Under this impression, we examined the essays now under consideration with much anxiety, and can safely state, that few writers have treated of the origin of moss in a more luminous manner. The author (Mr Rennie) seems to be free of prejudice, attentive to minute inquiry, and disposed to gather knowledge from every source within his reach, or which promised to yield the information he was in search of.

Mr Rennie has presented us with two essays on this important subject. The first is on ligneous plants, wherein he shows, that forests abounded in the north of Europe two thousand years ago; and then points out the causes, or means, which brought about their destruction. In the second essay, he treats of aquatic plants as contributing to the formation of moss; and it must be acknowledged, that his deductions are in strict conformity with his premises. In short, we have perused many papers on peat earth, or moss, but from none of them have experienced so much satisfaction as from the essays of Mr Rennie.

The tenth section of the second essay contains the author's general conclusions, all of which are clear, distinct, and well expressed. The first of these conclusions is, that moss is of vegetable origin. The second, that all moss is either composed of ligneous or aquatic plants; and the third is so much to our mind, as to encourage us to lay it before our readers.

'*Thirdly*, From the above account we may conclude, that many regions now covered deep with mofs, were at one period arable lands, at another foreſts, at a third lakes.

'We may ſtill trace theſe changes, and mark their progreſs, in many moſſes. For inſtance,

'1. Under ſome moſſes the marks of the plough, and even ears of corn and other grain, with various utenſils of huſbandry, have been found.

'Theſe are clear evidences that, at one period, the above ſurface was a ploughed field.

'2. In theſe ridges a vaſt variety of trees are found, ſome ſtanding erect, others fallen proſtrate, but all with their roots fixed in this ſubſoil of arable land. This is a proof that, at a ſecond and ſubſequent period, the ſurface was covered with a foreſt.

'3. Theſe trees are ſometimes found immerſed in moſs of a ſemiliquid ſtate, to the depth of 10, 20, or 30 feet; and aquatic plants, ſuch as flouriſh in water, may be ſtill traced through all its depth. Nothing can be a clearer proof than that this, at a third and ſubſequent period, has been a lake.

'And in this ſtage ſome lakes are ſtill found. Lough Neagh is an inſtance of this. Mr Smith, in his account of it, mentions, that part of this loch was formerly a foreſt; that this is the common t tion

among the inhabitants of that district; that it is probable, for much wood is found in it; that this wood is sunk in a kind of pulpy moss called mire, black at the bottom of the lake. If so, it will naturally be asked, why the whole loch has not been converted into moss? It is impossible for me to assign the reason. Perhaps the great extent of the surface, and the agitation of the waters by the winds, may be unfavourable for the growth of those aquatic plants which contribute to form moss; or, perhaps, the petrifying quality of the waters may be unfavourable for this purpose. If the aquatic plants above described grow in any sheltered bays of this loch, and if they are there accumulated, they may ultimately be converted into moss. This I mention, merely to excite the attention of the intelligent part of the inhabitants of that district to the subject.

'4. It is certain that, in other places, many lakes have been, by the above means, filled up and converted into mosses.

'5. And it is equally certain that, at a subsequent period, these mosses, by consolidation, may have been converted into meadows, and afterwards into rich arable lands. Most of the fertile plains along the banks of rivers, in the north of Europe, are of this description; they, of course, generally lye on a subsoil of moss.

'So that it is probable that many of these have, in the course of ages, undergone all the above changes; from arable lands to forests, from forests to lakes, from lakes to mosses, from mosses to meadows, and from meadows to their original state of arable land; I call it their original state, but I think it probable that, before they were first cleared and cultivated, they were originally covered with wood.

'It is natural to suppose, that many low levels, covered with wood, have been converted into morasses. The trees, by falling into decay, and stemming the course of rivers, may have occasioned such a stagnation of water as to cause this change. It is equally natural to suppose, that such low levels may have been converted into deep lakes. The mouths of rivers may have been so stemmed, by accidents such as I have described, p. 51 and 52 of my first essay, as to raise the waters in the valley to a level above all the plants and trees that originally sprung up and flourished in it. If this valley was of small extent, and the lake formed in it favourable for the growth of aquatic plants, the whole waters may have been first covered over with a matting of these. By consolidation, and the continual accession of vegetable matter, the whole lake may have thus been converted into a moss.

'All those mosses which are deep, and contain trees, some standing erect and others prostrate on the original subsoil, and especially those which contain a rushy, reedy peat above these trees, and a black compact moss above this, seem to me to have undergone these changes; and the vast extent of mosses of this description over Europe, probably originated in this way. It were superfluous to enumerate instances of this. I shall only specify two; the first is Low Modena, which seems to have undergone all these changes; the second is the bog of Monela in Ire-

d, which seems to have been subjected to a similar succession. Ra-

mazini

mazini deſcribes the former; Carr, in his Stranger in Ireland, delineates the latter.

'The ſtratification of the vicinity of Modena is ſomewhat ſingular. 'The ſurface of the valley is now a rich arable field. At the depth of 14 feet below this, it is ſaid that the rubbiſh and ruins of an ancient city were diſcovered. Paved ſtreets, and pieces of moſaic work were found at this depth: below this the earth is ſolid, and ſeems not to have been moved: lower down is a looſe, moiſt ſoil, mixed with vegetables; and, at the depth of 26 feet, entire trees, ſuch as filberts, with nuts, and a great quantity of branches and leaves have been dug up. At 28 feet deep a ſtratum of ſoft chalk, mixed with ſhells, was diſcovered. This ſtratum is 11 feet thick. Below this, at the depth of 40 or 50 feet, there is to be found the ſoil of a low marſhy country, full of ſedge, reeds, ſhrubs, roots of trees, nuts, ears of corn, leaves of trees, branches, and boughs.' He even deſcribes the ſpecies of wood. He ſays, that oak, elm, walnut, aſh, and willow may be diſtinguiſhed. 'Some of theſe trees are broken down, others ſtand ſtill upright as they grew. Among theſe are found old Roman coins, marbles, ſtones ſquared and cut by the hands of men. Each tree is found on the ſoil moſt adapted to its production. The fir roots are faſtened in the ſand, the oak in the clay.'

'The whole of this valley, he ſays, was a lake in the reign of Julius Cæſar. The ſurface is now drained and conſolidated, and converted into arable land.

'It ſeems obvious to me, that this valley has undergone all the changes above deſcribed; at one period it has probably been arable land; hence the ears of corn, &c. which have been diſcovered: ſubſequent to this, it ſeems to have been overgrown with wood; hence, the trunks and roots of trees: this wood ſeems afterwards to have been converted into a moraſs; hence the ſedges and reeds, &c. which are found: this moraſs ſeems to have been after this conſolidated by alluvion; hence the ſtratum of ſoft chalk and ſhells.

'Above this, another generation of a foreſt ſeems to have ſprung up; hence the other tier of branches and leaves of trees. This ſecond generation ſeems to have undergone the ſame fate with the firſt; the moiſt ſoil mixed with vegetables above it, ſeems to be the remains of the marſhy plants that muſt have ſprung up after this foreſt was alſo converted into a moraſs.

'This moraſs ſeems again to have been conſolidated, probably by alluvion; hence the ſtratum of ſolid earth: on this the city ſeems to have been built; hence the paved ſtreets, &c.: the 14 feet above this ſeems to have been formed after the city was overwhelmed with ſome inundation.

'Whether the lake that exiſted on the ſpot at the age of Julius Cæſar was thus formed, it is impoſſible to decide. If ſo, however, the 14 feet of ſolid ſoil above this city, muſt have been formed ſince that period.

'That many low lying vallies in different parts of the world have undergone

undergone ſimilar changes, is not only probable but certain. Th moſſes of Ireland exhibit ſimilar proofs of this: in digging deep int theſe, recumbent foreſts upon foreſts are found, with a layer of eart between.

'This leads me to notice the other inſtance mentioned by Carr, i his Stranger in Ireland: He ſays, "that the bog of Monela is not fa from the bog of Allan: ſtumps of trees are ſtill viſible on the ſurface o the former; under theſe lies a ſtratum of turf 10 or 15 feet deep: un der this, a tier of proſtrate trees is diſcovered; beneath theſe anothe ſtratum of earth is found of conſiderable depth: and below this a grea number of ſtumps of trees are found, ſtanding erect as they grew. Thu there is a ſucceſſion of three diſtinct foreſts lying in ruins, one above th other."

'He ſays, "Some of theſe moſſes have been perforated deeper tha 50 feet: at the bottom of many of them, he obſerves, arable land ha been diſcovered, bearing the marks of the plough, and formed into re gular ridges."

'Theſe fragments of the natural hiſtory of moſſes, may furniſh u with ſome faint ideas of their origin and formation. If we were to dil cover the hulk of a ſhip, or even a few beams, ſunk in the ocean, w would be at no loſs to ſay, that theſe were the remains of a wreck. Th ſize of theſe beams might eaſily lead us to diſtinguiſh between the wrec of a frigate and a firſt-rate man of war. The ſtate of preſervation i which theſe are found, might give us ſome idea of the period at whic the wreck happened.

'It is preciſely ſo in examining the hiſtory and origin of peat moſſes The ruined foreſts found in theſe leave us no doubt that they have bee partly formed of the wrecks of theſe. The ſize and ſpecies of trees lea us to conclude what muſt have been the age of the foreſt when it fel into ruins. The ſtate of preſervation of theſe trees, and the depth o ſoil formed above them, may give us ſome faint idea of the period a which they fell. The remains of aquatic plants, reeds, and ruſhes, &c found above them, give us likewiſe an idea of the cauſe of their ruin and the ſtratification of the ſoil exhibits a view of the changes it ha undergone in the lapſe of ages.'

In these essays, Mr Rennie has only endeavoured to ascertain the materials of which moss is composed, and to show how those materials have been accumulated together. But he promises, at an early period, to lay before the public a series of other essays respecting the uses to which moss may be applied; a subject certainly deserving of the most sedulous investigation. If these future essays are written with the like spirit as animate those before us; if they are executed with similar judgment, and directed by practice, not by theoretical speculation, then we may expect to receive more satisfactory information about the nature and properties of moss, and the economical purposes to which it may be applied, than has hitherto been communicated by any other writer.

N.

BRANCH III.

Agricultural Intelligence.

Since the ſecond week of November, the weather has been ſingularly variable, and, in ſeveral reſpects, more unfavourable to live ſtock and field work than any ſeaſon within our remembrance. The iſland has been often viſited with wetter winters, occaſioning the ground to be in an improper condition for receiving the plough, but has ſeldom experienced ſuch ſevere black froſts as during the preceding three months, the conſequences of which are not yet ſufficiently aſcertained. Both wheats and clovers have ſuffered conſiderably; many turnips are rotted; and it is to be doubted that the freſh ones remaining will ſoon get into the like condition. Leſs wheat has been ſown than uſual; and the backwardneſs of the weather will prevent that deficiency from being made up, by a ſpring ſeed-time, to the full extent intended. Ploughing is, in many counties, far behind, and provender becoming ſcarce in all. The ſeverity of winter occaſioned a greater degree of waſte than would have happened under more favourable circumſtances; and, ſhould the ſpring quarter prove adverſe and inclement, probably there will be a great deficiency of dry food in many diſtricts long before the graſs ſeaſon arrives.

Markets have hitherto been fully ſupplied with grain, though there is every reaſon to believe that a degree of ſcarcity will afterwards be felt, ſufficient to cauſe a conſiderable advance of prices. Wheat has had a dull ſale through the whole winter, and at this date may be conſidered as inferior in value to peas and beans. Fat cattle and ſheep, not very plentiful, have ſold tolerably well; but, as turnips are nearly conſumed in many places, an advance of price may be looked for. Taking the value of produce in a general point of view, the reſult is unqueſtionably againſt the farmer, as might eaſily be demonſtrated were this the proper place.

This Magazine being the only periodical publication in the iſland which admitted a diſcuſſion concerning the property tax, or deſcribed its pernicious effects upon the tenantry, it gives us pleaſure to remark, that the ſubject has been taken up by the landed intereſt, and farmers of ſeveral counties, whoſe petitions will no doubt meet with that attention from the Legiſlature, which every man, who has attentively reflected upon the ſubject, muſt acknowledge they are juſtly entitled to. The reſolutions of the Kincardineſhire farmers are inſerted in a preceding part of this Number, and certainly do much honour to thoſe who brought them forward. We cannot help obſerving, that a ſpark of that public ſpirit which influenced our original correſpondent in that county (unhappily now no more) ſtill continues to animate his friends and neighbours; and we ardently wiſh that the tenantry of other counties would follow up ſuch a laudable example. It is not the efforts of one,

two, or even half a dozen of counties, that will procure an alteration of the tax. No. The criterion of rent is ſuch a convenient one to the tax-gatherer, that it will not be ſurrendered unleſs a ſtronger oppoſition, than hitherto has appeared againſt it, come forward before the Legiſlature. It is very well to ſpeak of the wiſdom of Parliament, and to expreſs our ſteady truſt that all their meaſures will be guided to promote the public welfare. Theſe are ſound doctrines in the abſtract, though not applicable to the buſineſs under conſideration. If the landed intereſt, whether proprietors or tenants, ſit with their arms *a-kimbo*,—if they remain ſilent, and without complaint,—if they patiently ſubmit to the property tax, without ſaying that they are thereby aggrieved;—we ſay, if this paſſive ſtate is preſerved, Parliament muſt neceſſarily infer that the tax is a fair and equitable one, and determine not to change the rules adopted for carrying it into execution, merely becauſe two or three ſolitary petitions are preſented for relief. The ſubject is of importance, and undoubtedly merits far more conſideration from the landed intereſt than hitherto it has obtained. At preſent, the tax chiefly falls upon the tenantry; but ultimately, it muſt be ſuſtained by proprietors,—a propoſition evident to the dulleſt capacity.

SCOTLAND.

Weſt Stirlingshire Quarterly Report.

THE time is now come when the farmer can eſtimate, with accuracy, the injurious effects of the late unpropitious ſeaſon. After a wet, and a cold ſpring,—after a ſummer, at firſt of exceſſive drought, and afterwards of inceſſant rain,—after a harveſt late in its arrival, and interrupted prematurely by the ſeverities of winter, it is not to be expected that the crop ſhould be either good in quality, or great in quantity. There does not appear to have been enough of climate for bringing to maturity thoſe fruits which uſually ripen in this country. Of this, any perſon may be convinced, from obſerving the berries of the bramble, which ripen about the ſame time with oats, ſtill hanging neglected by children in the hedge rows, and wearing the ruſſet appearance which they ſhould have had in ſummer. In the upland diſtricts of this county, a great part of the corns had not paſſed that ſtage. The untimely froſts in the beginning of September irremediably injured both the ſtraw and the ear. When the crop was cut down, the injury was aggravated by the inceſſant rains which it experienced while ſtanding in the fields; and when, at length, it was carried home, it was, in ſome expoſed ſituations, found ſo exhauſted of glutinous matter, that, on the leaſt motion, the corn, the chaff, and even the footſtalk, fell from the ſtraw to the ground. In all the upland diſtricts, and even to the ſuburbs of Glaſgow, the crop was not all harveſted till the middle of November. During ſome occaſional good days at the beginning of that month, the potato crop was neglected, and the whole attention directed to the corns. The latter

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was at laſt ſecured; but the former, from the unexpected appearance of froſt, and from its uninterrupted continuance for a month, was found, at the return of thaw, ſo completely deſtroyed, as in no inſtance to compenſate the bare trouble of digging it out of the ground. Barley was at firſt bought eagerly, and ſtill finds a good market. It is ſold at every intermediate price from 25s. to 35s. per boll. Although little injured by the early froſts, yet, from mere defect of climate to bring it to full maturity, it is found about 10 per cent. ſpecifically lighter than that of laſt year. Oats, as being later in ripening, have ſuffered more ſeriouſly, and ſhow but indifferently, either as to quantity in the barn, or quality in the mill. Few ſamples return ſixteen pecks of meal per boll of grain; and in high ſituations, the average return will not exceed ten or eleven pecks,—while, in common years, it amounts to fourteen or fifteen. Meal is ſelling at 30s. per boll; and ſeed oats already fetch the ſame price. Of late, there has been rather a degree of dulneſs in the ſale of grain. This ſeems merely to be a temporary effect of the great quantities which are uſually thraſhed out and brought to market at this ſeaſon. When it is conſidered that peas and beans have generally failed, that oats and barley are rather defective in quantity, and in moſt places inferior in quality, it is very probable that prices will rather advance than decline. It is admitted that every corn crop was plentiful in England and Ireland; but importation into Scotland muſt, from the ſtate of politics, be limited to what can be ſpared by theſe countries; and they have not been in the habit of exporting much for a ſeries of years. It is known that ſix thouſand bolls of grain have been of late brought into the Clyde in the courſe of a week; but this is only a partial remedy to a general calamity.

An evident effect of the dearneſs of proviſions, is a conſiderable reduction in the price of labour, particularly in the wages of ſervants. The latter have been gradually riſing for the laſt ſix years, and latterly amounted to from 12l. to 15l. for a ploughman in the half year, all around Glaſgow. The high price of manufacturing labour allured all the youth in the vicinity into the vortex of that city. The huſbandman, abandoned by the indigenous labourers of the diſtrict, was obliged to draw upon the population of the Highlands, and to raiſe the wages of his farm-ſervants ſo high, as to bribe the natives to deſcend from the Grampians. From the preſent ſtagnation of trade, ſo many manufacturers have been laid idle, that, even after ſupplying all the neighbouring counties with militia ſubſtitutes, they have regorged upon the country in conſiderable numbers. From the very defective crop of the Highlands, an unuſually great number of people from that quarter, from the difficulty of ſubſiſting at home, have offered themſelves for ſervice in the Low Country. The abundant ſupply of labourers has naturally effected a diminution of their wages. Thoſe of men-ſervants have declined about 15 per cent. Women are ſtill cheaper. At the cloſe of the great hiring fairs on the ſkirts of the Highlands, maid-ſervants could be procured at about one half of the wages of the preceding year.——*1ſt February.*

Letter from a Farmer in the Upper Ward of Lanarkſhire, Feb. 8.

'THE weather has been very unfavourable in this high diſtrict, the froſt having ſet in earlier than uſual, and retarded field-labour conſiderably. Turnips ſuffered much by the froſt, few of them being ſtored this ſeaſon; which has occaſioned many fattening cattle to be prematurely carried to market in a half fed ſtate. The demand from Glaſgow was not ſo great as uſual, and prices have not exceeded 8s. per ſtone Amſterdam weight, ſink. The corn crops have turned out poorly; oats in particular, yielding only from eight to twelve pecks of meal per boll, being greatly damaged by the froſt in September; and peas and beans will not return the ſeed that was ſown.'

Letter from a Gentleman in Perthſhire.

'I HAD a letter from Colonel Graham, dated Holkham, 5th inſtant, in which he mentions a practice in uſe there, of giving to ſheep (during a ſtorm of ſnow) the branches of fir to eat inſtead of hay; and adds, that, in the morning of the above date, (a deep ſnow being on the ground) quantities of fir branches and hay, had been laid down on the lawn in front of the houſe, at Holkham, in order to ſhew him the experiment, and that the ſheep left the hay and took to the fir branches; this he wiſhed to have tried here, and that as well with the branches of ſpruce as thoſe of Scots fir, the latter being only what he ſaw uſed at Holkham. The fall of ſnow we had on Sunday was favourable for the experiment, and we laid down yeſterday to the ſheep, both ſpruce and Scots fir branches, both of which they ate without any reluctance. We again put down to them this day, both branches and hay, in order to try which they would prefer, and they appeared to be equally as fond of the former as of the latter, eating indiſcriminately of either. The ſheep did not appear in the leaſt ſhy, and I have no doubt, from their readineſs to eat them at ſo early a period of the ſtorm, that this practice muſt be of conſiderable advantage during a long ſtorm, particularly where there is much *young fir* wood.'

Weſt Roſsſhire Quarterly Report.

IN reporting on the huſbandry of a diſtrict entirely highland, the objects which preſent themſelves are few, and cannot be very intereſting to mere agriculturiſts. Here the efforts of agriculture are feeble, limited to a few acres, and thoſe under the worſt ſyſtem of management. This will appear evident, when ſtated, that it is no uncommon thing for many of the black cattle of the north-weſt Highlands, to periſh for want of winter food. But it is well obſerved in ſome of your uſeful pages, that the improvement of a country is in general more retarded by moral than natural cauſes. Our climate is milder than in the ſame latitude on the eaſt coaſt. The quantity of tillage might be greatly increaſed, drains might be formed at a ſmall expenſe, and irrigation executed with little labour. But the diſtrict alluded to has languiſhed under the effects of feudaliſm; from which it is ſuppoſed no virtue ever ſprung,—unleſs ſavage courage, falſe courteſy and magnanimity, and ſplendid ſpoliation, ſo elegantly adorned by Oſſian's poems, ſhall be eſteemed

eſteemed ſuch. Perhaps it may be ſo amongſt poets and chieftains; but farmers eſtimate virtue by quite a different ſtandard. The moral turpitude of the feudal ſyſtem ſtill remains; the adminiſtration of our laws is tainted with it; and domeſtic policy, as well as rural economy, are polluted by the dregs of this barbarous ſpirit. If any one ſhall think proper to take exception at theſe obſervations, the writer hereof ſhall avow himſelf ready to condeſcend on particulars.

A great quantity of rain always falls in this diſtrict; but the weather, during the four months preceding, has been uncommonly variable. There have been ſeveral ſtorms of ſnow, with keen froſt. Fortunately for cattle and ſheep, theſe did not continue long; and the ſnow, it is believed, throughout the diſtrict, was never, at the ſame period, more than ten inches in depth. Nevertheleſs, much apprehenſion is entertained for the ſafety of cattle. Hand-feeding has been reſorted to ſparingly. From the dull ſales of cattle laſt year, an extra quantity remains in the country; and from the very ruinous and unfavourable harveſt, a great proportion of the natural or meadow hay (for we have as yet little elſe) was deſtroyed; and the corn crop ſhared the ſame fate. In theſe circumſtances, fears are entertained, which Low-country, or tillage farmers, ſeldom feel. Their ſources of income are more various, though more expenſive.

The only articles of export in this diſtrict, which deſerve to be noticed, are ſheep, wool, black cattle, herrings, and kelp. The introduction of ſheep, deſervedly becomes more univerſal, which are generally of the black faced breed; though it is ſuppoſed the Cheviot kind would anſwer well on many peninſulated ſituations, where ſnow never lyes any conſiderable time.

Black cattle, the herring fiſhing, and potatoe crop, are the articles on which the great body of the population depend. The fiſhing failed, and the potatoes were prodigiouſly hurt by the early and ſevere froſts. In ſhort, a more calamitous and diſaſtrous ſeaſon than this has been to the north-weſt Highlands, cannot well be imagined.

Kelp, laſt ſeaſon, was let to manufacturers at 3l. 5s. per ton of *twenty-one hundred weight*. The expenſe of manufacturing was about four guineas per ton. The article was ſold by exporters at about 12l. Sterling per ton of 20 cwt., which would yield a large profit after paying all charges. Of courſe, the rents offered by manufacturers are about 20s. higher per ton for the kelp of this ſeaſon. It is reported in this country, that Liverpool, Leith, and Greenock merchants, to whom the kelp is generally ſold, have been in the practice of ſending that of the worſt quality to the London market at a high price, and retaining the beſt for their own uſe. It is hoped the London dealers are now convinced, that kelp of the very beſt quality is manufactured on the Weſt coaſt and Hebrides.

Turnips are beginning to be cultivated here on a ſmall ſcale, and they have been damaged only in an inferior degree during winter, notwithſtanding the frequent ſucceſſion of froſt and freſh.

It would be ungrateful in a Highlander to close this retrospect, with out acknowledging the beneficent exertions of Government in givin employment to a numerous population in the national improvements c canals and roads. In addition to the numerous roads made and formin under the auspices of Government, in the adjacent counties, one has bee recently advertised for contractors, from the ferry of *Kylebakin* to *Din wall*, a distance of sixty miles. This will open a communicatio through a country, 'over which,' in the pompous language of Joh son, 'no wheel ever rolled.' And it deserves notice, that Hugh Inne Esq. of Lochalsh, merits the best acknowledgements of the county large, for his spirited and liberal contributions, in effecting, with th assistance of the parliamentary commissioners, the commencement the first line of road in this county, under the late act of Parliament f making roads and bridges in the Highlands.——11*th February.*

Upper Annandale Quarterly Report.

THERE is a visible depression on the minds of the farmers in this di trict. The season, though not absolutely calamitous, has been very u propitious to them. Great injury was sustained by the wet harvest and the early and severe winter following, has added to their distresses which, by the alteration of the times, have risen to a serious height. is not denied, that some of them would renounce their tacks, if the could get quit of them, and dispose of their stocks.

The operations of the field have been much interrupted and retarde with frosty and wet weather in succession. The turnips were a failin crop, and are gone, some time ago, by the severe frosts; the Swedi turnips have been greatly damaged by hares. Potatoes were bad an scarce, and some of them have not been got up at all. The pastur were greatly injured by the severe early frosts: dry food is not plentifu neither is it good, excepting the sown hay. Young cattle are so doub ful an article at present, that several farmers appear to think, that stirk or young cattle, not in good order, are hardly worth acceptance, if the should even be offered gratis.

Oats have turned out unproductive, and good prices are offerin Barley (owing to the high duties of malt, which interrupt the natur use of this grain) is dull of sale. Fat stock alone maintains a full pric and has become scarce.—— 12*th February.*

Aberdeenshire Quarterly Report.

WINTER in this district has been almost one continuation of fro with slight falls of snow. The remainder of the crop, was scarce *yarded* when the stormy weather set in, which has hitherto proved e ceedingly adverse to field-work of every kind.

The provender, which was always considered as scanty and deficien and which was rendered much more so from the badness of the harve has been consumed much quicker than in ordinary years, from the har ness of the winter, and its early commencement; while the greate part of the work remains yet to be performed. Should the storm, whi at present is greater than it has been at any time before, even go c

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ſoon, it may be fairly ſtated, that the ſeed-furrow will not reach its ordinary breadth here this ſeaſon, and that, at all events, a great part of it muſt be very late.

Such turnip as remain in the field, the yellow excepted, are much hurt by the ſeverity of the ſeaſon, and will not ſtand out the uſual time. Fat cattle ſell readily at 8s. to 8s. 6d. per ſtone, ſink. Sheep have been carried on with ſome difficulty and conſiderable expenſe in the lower parts of the county. This difficulty and expenſe muſt have been increaſed in higher and more expoſed ſituations.——*17th February.*

Letter from a Gentleman in Roſſſhire, February 14.

'THIS county is in a lamentable ſtate. Provender in the Highland diſtricts is nearly exhauſted, and hundreds of black cattle have been ſlaughtered and ſalted. Should the preſent adverſe weather continue long, the greateſt part of the cattle and ſheep in the Weſtern or Highland diſtrict of this county muſt periſh. But, what is worſe, the people are beginning to feel ſeverely the want of potatoes and meal; of the former, there is ſcarcely one to be got, and the latter is ſelling at 34s. per boll of nine ſtones. Notwithſtanding this ſcarcity, diſtillation goes on briſkly, and will continue to do ſo while the wreaths of ſnow defy the gauger.'

Banffſhire Quarterly Report.

THIS quarter may be reported as one of the moſt adverſe for the operations of the farmer that has been experienced for many years. Exceſſive wetneſs in the firſt inſtance, and the frequent recurrence of moſt intenſe froſt, which ſet in at a much earlier period than uſual, has kept labour in a very backward ſtate. In few inſtances is there much ploughed for ſeed, and in the interior there is little done. Although a good deal of land was prepared for wheat, ſcarcely any could be got ſown till about the latter end of December, when a few days of milder weather admitted ſome fields to be laid down; but, from the ſtate of the weather ſince, it is to be apprehended with little chance of ſucceſs, unleſs in very dry ſituations.

The ſtack yards are diminiſhing to a degree rather alarming, eſpecially when it is conſidered how much work remains unexecuted. In the upper diſtricts of the county, bear and ſtraw has ſold as high as 3l. Sterling per boll of 128 Scotch pints; and oats 45s. ſame meaſure. Notwithſtanding of the great ſlaughter which took place in the autumn, and conſiderable ſavings made by ſubſtituting *furze*, and the tops of heath for ſtraw; yet there will be great difficulty in bringing the remaining ſtock of cattle to graſs, if the ſpring is not uncommonly favourable.

The butcher market has hitherto had a full ſupply, and beef ſelling as low as 2½d. and 3d. per lib.; but the young cattle are now become too lean for ſlaughtering, and good beef ſells from 6d. to 7d. p. lib. From the want of turnips, few cattle were put up to fatten, and the ſeaſon has been unfavourable for that branch: ſo that, if the uſual conſumpt prevails in the ſpring markets, a ſcanty ſupply may

be expected. Some lots of good three-year old ſtots will be found in the uſual condition. Hay ſells at 18d. per ſtone of 20 lib. Dutch, but is not plentiful. Potatoes ſcarcely make any part of the human food; and there will, no doubt, be difficulty in getting ſeed preſerved. The failure of this uſeful eſculent has added greatly to the diſtreſs of the poor, whoſe numbers are daily upon the increaſe. Labour has not come down ſo much as might have been expected, conſidering how many manufacturers are out of employment.—*Feb.* 17.

Letter from a Gentleman in Ayrſhire, February 17.

'FROM the date of my laſt letter, the weather continued extremely unfavourable for a long tract of time, inſomuch that the month of November was far advanced before the harveſt operations were completed. Near a week of dry weather intervened, which preſerved the crop from total deſtruction; and it was got ſecured, though with conſiderable loſs of the beſt of the grain ſhaking off in handling, from the long continued wetneſs. The whole hands of the county being thus employed in ſecuring the corn crop, they were prevented from taking up the potatoes in due time; and a ſevere froſt having come on before that part of the labour of the field was got accompliſhed, a general loſs was ſuſtained. Many hundreds of acres of them were not attempted to be raiſed, but got leave to remain in the ground to ſee if they would recover by the ſucceeding thaw. Thoſe that were left thus in the ground, though ſcarce yet fit for the uſe of man, are ſerviceable for cattle, while thoſe digged during the time of the froſt, are uſeleſs to both. Since the concluſion of harveſt, we have had a courſe of the ſevereſt weather ever remembered in the winter ſeaſon. High gales of wind, with torrents of rain, ſevere froſts, with immenſe falls of ſnow, have alternately divided the ſeaſon among them, with very little intermiſſion of mild or moderate weather. Field operations, in ſuch a ſtate as this, could ſcarce be performed, at leaſt not to any purpoſe; and, it is much to be dreaded, that the new ſown graſs, as well as wheat, has been greatly injured by ſuch a long continued alternation of froſt and thaw. The ſcanty crop of turnips, together with the depredations committed by the froſt on the potatoes, have greatly injured the feeder; and the almoſt total failure of the bean and pea crop, has occaſioned a conſiderable riſe in the price of hay. Cattle markets, which, at the end of laſt ſeaſon, declined as much here, as every where elſe, are at preſent completely ſtationary. Few ſales are made in this diſtrict at any time, at this early ſeaſon; but any few that might at preſent require them, are afraid to purchaſe cattle, on account of the ſcarcity of keep, or rather the fear of ſcarcity. Upon the whole, this has been an unfavourable ſeaſon for farmers, and farming operations. But, notwithſtanding all this, farmers, like other good chriſtians, forgetting the things that are behind, look ſtill forward with hope and joy. Nothing will deter or diſcourage them. The rage for land continues as great as ever; and ſome that has lately been diſpoſed of, ſet at ſuch rents as the very beſt ſeaſons cannot afford. There is ſurely an infatua-

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tion in the caſe, at leaſt ſomething that cannot well be accounted for. The property tax is univerſally and moſt grievouſly complained of. Indeed, it is ſo partial, oppreſſive and unjuſt, as extended to farmers, that their complaints are but too well founded; and ſome alteration in their favour is abſolutely indiſpenſable.'

Inverneſſſhire Quarterly Report.

From the 10th November to this date, the weather has been uncommonly variable, even for a Highland diſtrict; one day a heavy fall of ſnow, the next a rapid thaw, then high gales of wind, and after theſe a return of froſt. From theſe circumſtances, little ploughing has been executed, nor much dung driven out, the ground being ſeldom ſo firm as to bear a cart, owing to the froſt being generally preceded by a ſnow ſtorm. Not one half of the uſual quantity of wheat has been got ſown; and what is ſown, was, with few exceptions, put into the ground when in the moſt unfavourable ſtate. Straw is remarkably ſcarce, more ſo than ever known in this county, though fortunately the ſtock of hay on hand is conſiderable. Turnips, which were but a light crop, are almoſt totally ruined, by the alternate froſts and thaws; and, of courſe, the butcher market muſt be ſcantily ſupplied before the graſs ſeaſon arrives.—*Feb.* 18.

Selkirkſhire Quarterly Report.

Since the date of laſt report, the weather has been changeable, often exceſſively tempeſtuous, accompanied with ſnow, though ſeldom of long duration; and whenever it began to clear up, a ſevere froſt came on directly. From theſe circumſtances, labour is in a backward ſtate; ploughing has not been ſo much ſo theſe ſeveral years. The weather, ſince the 15th, has had a more favourable aſpect; the thaw is gentle, and ſeems to be more ſteady than at any time for three months paſt; but it is enough to ſay, that there is much need for it.

The turnip crop ſuffered ſeverely from changeable weather; and, for the ſame reaſon, ſheep fed on that root came on but ſlowly. The feeder, however, will have a fairer return this year than in ſome former ones, as he purchaſed conſiderably lower; while he can ſell the ſtock, when fat, nearly as high as formerly. It will be inferred, from the ſtate of the weather, that the ſeaſon has been unfavourable for ſheep; and undoubtedly, if the ſpring is not mild, a great loſs of hogs may be apprehended. A ſevere ſtorm of ſnow from NNE. on November 20th, did a good deal of damage, chiefly by enfeebling the ſtock, and waſting the graſs at an early period of the ſeaſon. Had that ſtorm happened at a more advanced period, the loſs would have been incalculable; but at that time, the ſheep being in high condition, were enabled to make great efforts to ſave themſelves. Times at preſent wear a very unfavourable aſpect for the farmer; ſtill he is paſſive in the extreme. A ſolitary murmur may at times eſcape from an individual, againſt the abſurd criterion fixed by the property tax bill, for aſcertaining his income; but theſe murmurs will be of ſmall avail, towards procuring relief, ſuch not being to be obtained without uſing the greateſt exertions,

and by a general and conſtitutional application to Parliament from thoſe concerned. It is impoſſible to think that redreſs would be denied, under thoſe circumſtances, when it can be ſo clearly proved, that the property tax is levied upon the farmer, not according to his means and abilities, but in an inverſe ratio! or according to his wants and neceſſities.—*Feb.* 19.

Wigtonſhire Quarterly Report.

WINTER has diſplayed all the uſual ficklenes of our climate,—calms, tempeſts, froſts, thaws and rains. Throughout theſe variations, labour has been carried on, and is perhaps as forward as uſual at the preſent period of the ſeaſon.

Fodder, though not generally ſcarce in quantity, is, in many inſtances, of bad quality; and little proſpect as yet opens of a ſpring ſale of ſtock. Some droves are indeed ſaid to be moving off to the South, and it remains to be known how they will be diſpoſed of.

Grain markets have been advancing of late; and it would appear, from this circumſtance, that the damage done during laſt unfavourable harveſt has not been ſo extenſive as might have been apprehended.

An unfortunate typographical error crept into laſt Quarterly Report from this diſtrict. It was meant to be ſaid that the *bean crop* had univerſally failed, but it was printed *bear crop*. The latter was by no means a bad crop, though the former certainly was, barely producing ten buſhels per acre, and even that very inferior grain.——*Feb.* 20.

Morayſhire Quarterly Report.

To deſcribe the preſent ſtate of agricultural matters is an unpleaſant taſk to the reporter; a more unfavourable termination of the harveſt not having occurred in this county, nor a more deficient crop of oats and barley, for many years. Wheat, to be ſure, yielded a medium produce; but as for oats and barley, though the exporting part of Morayſhire may ſupply itſelf, the interior will want both for bread and ſeed, with little ability in the conſumers to pay, owing to a total ſtagnation in the ſale of lean ſtock during the preceding autumn. Straw is ſo ſcarce in the Highland diſtrict, that it is ſaid many inferior beaſts have been ſent out to ſtarve on the hills, rather than that the owner ſhould be ſubjected to the purchaſe of fodder for them; and perhaps they were right in adopting this unpleaſant alternative, ſeeing that the article was ſo remarkably dear.

Potatoes, which, in this neighbourhood, were ſuppoſed to be a tolerable crop, have turned out miſerably deficient, and many fields were never got dug up. Labour is much behind, and a leſſer quantity of wheat has been ſown than farmers recollect; indeed there is not one tolerable field to be ſeen; and, in pariſhes where this ſpecies of grain is the ſtaple article, there is not perhaps forty acres yet got down, and ſcarcely one of decent appearance. Much was expected to be got done in ſpring; but intenſe froſts, accompanied with heavy falls of ſnow, until the 18th inſtant, have precluded almoſt every hope of ſucceeding.

Farmers, in the low country, have, as uſual, good ſtocks of young cattle

cattle in fine condition; and for ſuch they expect ready ſale in March or April; as beef, from the general want of keep, muſt be ſcarce in all quarters. Farm ſervants and labourers were to be had laſt Martinmas on eaſier terms; ordinary ploughmen, 14l. to 16l. *per annum*, with bed and board; labourers, 16d. to 18d. per day, in winter, without victuals; in ſummer, 20d. to 2s.——*Feb.* 20.

Letter from Falkirk, February 20.

'A WINTER more variable, during which the moſt ſudden and unexpected changes of boiſterous and inclement weather of every deſcription have followed in rapid ſucceſſion, and, what is more to our purpoſe, one more unfriendly to the purſuits of agriculture, can ſcarcely be remembered. The wet weather, mentioned in laſt report, continued with little intermiſſion until ſevere froſt ſet in, which put a premature cloſe to wheat ſowings, and diſappointed many who had not even got their ſummer fallows ſown. From theſe circumſtances, and that ſpring ſowing has hitherto been little practiſed in this diſtrict, our ſoil being long in getting dry, there will be leſs breadth of land under this crop than for two or three years paſt. Except wheat was ſown very early, it was put into the ground under very unfavourable circumſtances; and on ſome fields, ſown three months ago, ſcarcely can an appearance of a braird be yet diſcovered. Ploughing, from the circumſtances ſtated, is far behind; therefore, great exertions muſt be made to get forward with it whenever the weather permits. Owing to the winter ſetting in ſo early, and with ſo much ſeverity, great apprehenſions were generally entertained reſpecting the quantity of fodder on hand under ſuch circumſtances. This naturally occaſioned an extravagant price, and led to the moſt attentive economy, which will be all neceſſary to make out till graſs arrives, if the ſpring ſhould prove backward.

'Among the other circumſtances of this uncommon ſeaſon, may be noticed, ſome appearance of a fall in the price of farm labour. At our laſt *feeing* day (a day for hiring farm ſervants for half a year), the quantity of this article preſented in the market was greater than the demand ſeemed inclined to take off, at leaſt ſo readily as has happened on ſimilar occaſions, for ſome time paſt; and in place of maſters hurrying about the market out of breath in ſearch of ſervants, the latter were under the neceſſity of giving themſelves that trouble, and conſequently made to feel again the place which more properly belongs to them, and which the good order of ſociety requires they ſhould occupy. This has been long looked for, and anxiouſly deſired by many; and although by ſuch it may be found a temporary convenience or gratification, a recurrence of it is to be deprecated as no very favourable preſage of future proſperity.

'The landed intereſt ſeem at length rouſed to a ſenſe of the extreme hardſhips impoſed on the occupiers of land by the property-tax. Pity they had not ſooner liſtened to the early calls made on them to this point, in your work, and ſo frequently and earneſtly repeated. When a matter of revenue has been once very ſucceſsfully in operation for years, as this unqueſtionably has, it will be found very difficult to get a

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Chancellor of the Exchequer to liſten to a change, however fair and reaſonable, which is likely to diminiſh its productiveneſs; and in the preſent ſtate of the country, when an adequate ſubſtitute would be no eaſy matter, it will require 'a long pull, a ſtrong pull, and a pull altogether,' to effect any thing to purpoſe. Unleſs, therefore, the matter is more generally taken up than hitherto appears to have been the caſe, only faint hopes of ſucceſs can be indulged.

Forfarſhire Quarterly Report.

The preceding winter has been unuſually ſevere. A ſtrong black froſt has prevailed during the greater part of it; but particularly, for a month bypaſt, no ploughing has been obtained. Now the weather is more mild. Aration is indeed far behind; and the benefit derived from winter froſts will be leſs than wiſhed for. The wheats have received a ſevere check; but, unleſs upon thin poor ſoils, the loſs by throwing out is not yet great. A good many fields late ſown are not yet brairded.

Turnips have ſuffered much, and, with the ſoft weather now ſetting in, will be of little value for ſpring food. Fodder on many farms is very ſcarce, and cannot almoſt be obtained for money. Cattle, on that account, cannot be ſuppoſed to be in good order for the ſpring markets. Fat cattle have not ſold ſo high as was expected, and, owing to the ſcarcity of keep, may remain about the ſame prices, although a riſe was looked for. Beef and mutton ſell for about 6d. per lib.

Land-rent ſeems to be rather ſtationary than on the riſe; and farming ſpeculators begin to doubt the prudence of their late tranſactions, eſpecially thoſe who have rented ſoils of an inferior quality. The price of labour is on the decline; and the fall is expected to be nearly as rapid as the late extraordinary riſe, if the preſent ſituation of manufactures continues.——*Feb.* 22.

Mid-Lothian Quarterly Report.

The current quarter has afforded ſo few incidents worthy of remark, that this report, like the ſeaſon, will be comparatively barren. The weather throughout has been ſingularly variable. Ploughing, however, is better advanced than might be expected; but ſuch repeated changes from froſt to freſh has proved highly injurious to common field turnips, many of which are completely rotten, and all of that ſpecies rendered leſs nutritive than uſually occurs at ſuch an early period of the ſeaſon. This loſs muſt be ſeriouſly felt by the cowfeeders around Edinburgh, more particularly as the great diſtillers have raiſed their grains to an unprecedented height. Neither can it be conceived that this injury is local; for, from a ſimilar cauſe, the live market at Edinburgh is glutted with raw, half fed cattle, hardly fit for the ſhambles, which, it is probable, may produce a correſpondent want when the ſeaſon is further advanced.

The various kinds of grain have turned out nearly as ſtated in laſt report, and the market has continued pretty ſteady. There is a conſiderable demand for ſeed-oats from the high diſtricts, at from 29s. to

33s. per boll, but probably not ſo much as in prudence there ought to be. Many people are providing ſeed-oats from their neighbours, perhaps little leſs affected by froſt than their own; others are previouſly trying their grain in pots, which is undoubtedly proper. But theſe experiments ought to be gone about with circumſpection; for it is a fact well aſcertained, although not univerſally known, that corn may be partially tainted, and puſh forth roots, while the aeroſpire is ſo feeble and imperfect that it ſoon dies; or, ſhould it ſurvive for a time, never produces a ſtem of the uſual ſize and vigour, much leſs will it bring grain to maturity. Hence a thin, late, and ſcanty produce may be the conſequence. To thoſe who are old enough to remember the effects of the year 1782 on crop 1783, theſe effects will be apparent.——*Feb.* 22.

Berwickſhire Report, from October 28. 1807, *to February* 22. 1808.

NOVEMBER was marked by ſome of the moſt ſevere weather ever remembered at that period of the ſeaſon. In the beginning of the month we had ſleety blaſts, followed by a few fine days; but, from the 13th to the end, was almoſt continual froſt, accompanied by frequent falls of ſnow, particularly on the 19th, 20th, and 23d, when the wind blew hurricanes at N., drifting the ſnow to a great depth in the hill diſtrict. The three laſt months have exhibited a ſucceſſive alternation of froſt and thaw every three or four days, with the moſt ſudden changes of temperature, amounting ſometimes to 15 degrees in as many hours. Rain and ſnow ſhowers have alſo been frequent, but neither to any great exceſs.

The letting price, for turnip of good quality, at the beginning of the ſeaſon, was from 6l. to 8l. per Engliſh acre; but the crop will not now ſtand the eatage that was expected, many of the beſt fields having ſuffered ſeverely by the rot, which will probably occaſion a glut in the fat market.

From the unſettled ſtate of the weather in October, the *fag-end* of the Lammermuir crop was not carried till the beginning of November; and from the ſame cauſe, or, rather, from the almoſt total excluſion of autumn (winter having aſſumed the reins early in September), the ground occupied by winter wheat this ſeaſon is fully a third ſhort of laſt year's quantity.

Ploughing is far behind, and little ſpring wheat has yet been ſown. Indeed, from the wet ſtate of the fields at preſent, there is but ſmall hopes that any extent of bean ſtubble, or bare fallow, can now be ſown with that grain.

Markets for lean cattle at Martinmas were exceſſively dull, and prices from 16 to 20 *per cent.* below thoſe of 1806. Fat alſo ſold heavily in the end of the year, but has experienced a pretty current demand for theſe ſix weeks paſt, and prices have been tolerably ſteady. Beſt beef from 7s. to 8s. per ſtone, ſink; ditto mutton, from 7d. to 8d. per lib. ſink, Avoirdupois weight. However, if turnip ſtock is haſtily tumbled into the market, a temporary depreſſion muſt be expected, with a concomitant advance at the approach of graſs.

The grain crops turn out nearly as ſtated in laſt report, the qualities of wheat having proved fully as various as then ſuſpected. Prices continued advancing till about Chriſtmas, ſince which they have been almoſt ſtationary. Winter wheats and young clovers have at preſent a very weather-beaten aſpect.——*Feb.* 22.

Tweeddale Quarterly Report.

It is impracticable to convey any correct idea of the weather through the paſt quarter, ſcarcely three days having been alike; and in many of them, all the varieties of ſtorm and tempeſt were experienced. Setting in ſo early, the conſequences of winter have been, and will be ſeverely felt. Cattle were thus thrown upon dry food ſooner than expected, when a general ſcarcity of fodder was apprehended, and which will unavoidably be realized. Sheep were put into bad condition, while ſmall benefit could be derived from the turnip crop, which was either covered with ſnow, bound up with froſt, or drenched with moiſture. Field labour was alſo thrown quite behind, the harveſt being ſcarcely over when winter arrived. Perhaps at this date two thirds of that labour remains unexecuted, while the exhauſted ſtate of the fodder is imperfectly calculated to animate and ſtrengthen the beſtial during its execution.

Much of the grain which remained uncut during the September froſts, may be ſuſpected to be of improper quality for ſeed; and of courſe, various farmers have already purchaſed ſeed from other diſtricts. The deficiency of grain, both in barn and mill, is now completely aſcertained. Many of the oats do not yield more than half of the meal cuſtomarily returned; even the beſt do not come within two or three pecks per boll of their ordinary produce. The peas crop of this diſtrict is an entire blank, and the want of this grain will be ſeverely felt.

Fat cattle ſell lower than laſt year, and perhaps their quality is as much inferior. Horſes for the draught ſtill fetch high prices, but thoſe for the ſaddle are not in great requeſt. At hiring markets, the value of labour ſeems to be looking down. The ſame remark, however, cannot be applied to the value of land; though it is ſufficiently underſtood, that ſome late adventurers have rather miſcalculated, when bargaining for that article.——*Feb.* 22.

Letter from Langholm, February 23.

'For ſeveral months paſt, the weather has been ſubject to conſtant viciſſitudes, from ſevere froſt to heavy rain. The ſheep ſtocks are in conſequence lean; and ſhould the ſpring months prove unfavourable, a conſiderable loſs of both old and young may be expected. The turnip crop, which in general was light, ſuffered much from the frequent black froſts and ſucceeding rains. Hay from ſown graſs was not generally a weighty crop; and both ſtraw and natural grown hay, even in moſt places, were indifferently got; in conſequence, the prices of theſe articles have advanced. Seed corn is dear, as much of that grown in the higher diſtricts will be unfit for the purpoſe. Potatoes are ſcarce, and of a very indifferent quality; and, in ſeveral places, were not taken up, owing to the froſts which ſet in early in November.

'Upon the whole, laſt ſeaſon has been vaſtly unfavourable to the farmer. [illegible] of every kind has been upon the decline for ſome time paſt, whilſt corn

corn crops have failed, yielding a very inferior return, and being deficient both in quantity and quality. Add to theſe his daily increaſing expenſes, in taxes and other public burdens, among which, the abſurd and arbitrary impoſt, denominated Property Tax, is none of the leaſt oppreſſive; in levying which, the partial and erroneous ſtandard of the preſent rent which the farmer pays, is ſelected as the criterion for aſcertaining his actual property. Under ſuch circumſtances, the preſent ſituation of the tenant, who has lately taken his farm at a rack-rent, is none of the moſt enviable.'

Letter from Glaſgow, 24th February.

'We have at preſent on hand a conſiderable ſtock of old wheat, formed principally by large arrivals from America towards the end of laſt year, and by ſeveral cargoes from Liverpool. We preſume that the quantity will be ſufficient to ſerve for a mixture throughout the ſpring and ſummer months. In giving our opinion as to the probable turn which wheat may ſhortly take, we muſt confeſs that we feel ourſelves at a loſs. We are ſtill ignorant of the part which America may take; and *on her* depends, in a conſiderable degree, whether this grain ſhall riſe or fall in price. If ſhe declare war againſt us, there can ſcarce be a doubt but that an advance will take place; for we ſhall then be deprived of our uſual ſupplies from thence, and in all probability be obliged to ſend from this country conſiderable quantities to our iſlands in the Weſt Indies. If peace be preſerved, even making allowance for our preſent large ſtock, we do not believe, from the general face of things, that a material reduction can take place. From Ireland, and the ſouth of Scotland, we have received of late large ſupplies of oats: theſe have, in the mean time, glutted our market, and prices in conſequence have given way. We are of opinion, however, that this grain will ſhortly recover itſelf, the conſumpt being greater than uſual, in conſequence of the ſtablers making it a ſubſtitute for beans, on account of the high price of the latter.

'Large quantities of beans have arrived of late from England; and on account of the dull ſale, the ſtock on hand is ſtill bulky. Few or no peas at market.

'There is little or no barley in the poſſeſſion of the merchants; but the brewers and diſtillers having a tolerable ſtock, may prevent any conſiderable riſe in the price of this grain.

'The weather, during the latter part of laſt year, and throughout the winter, having been extremely unfavourable for ſowing wheat, the quantity depoſited was far ſhort of the two laſt years; nor do we think that there is much time now for the proſecution of this work. Annexed you have a ſtate of our prices.

'*State of Glaſgow Markets, 24th February.*

Dantzic Wheat	38s. to 40s.	p. boll of Linlithgowſhire meaſure.
Foreign Red do.	34s.—38s.	
Scotch (new) do.	30s.—36s.	
Ditto (old) do.	38s.—40s.	
Engliſh do.	37s.—39s.	

American

American Wheat -	40s.—41s.	p. boll of 240 lib.
Iriſh Mealing Oats -	29s.—30s. 6d.	do. 264 lib.
Do. Inferior do. -	27s.—28s.	do. Renfrewſhire meaſure.
Scotch Potatoe do. -	24s.—28s.	
Do. Small do. - -	20s.—24s.	
Engliſh Barley - -	40s.—00s.	do. Stirlingſhire do.
Scotch do. - - -	30s.—33s.	
Iriſh do. - - - -	26s.—28s.	do. Renfrewſhire do.
Engliſh beans - -	38s.—39s.	do. Stirlingſhire do.
Scotch do. - - -	35s.—36s.	
Do. Grey Peas -	34s.—36s.	do. do. do.
Do Oat Meal - -	28s.—30s.	do. of 140 lib.
Iriſh do. - - - -	27s.—28s.	
Fine Flour - - -	60s.—62s.	Sack of 280 lib.

ENGLAND.

Lincolnſhire Quarterly Report.

LITTLE has been done this winter with the fen drainage, owing to the ſeverity of the weather, and the uncommon quantity of black froſt which has prevailed through the greateſt part of it. Markets, both for grain and live-ſtock, have been uniformly dull, and prices conſiderably lower than expected. No kind of butcher meat is above 6d. per lib. avoirdupois. Wheat, from 60s. to 67s.; Barley, 40s. to 45s.; Oats, 28s. to 32s.; Beans, 60s; Rye, 48s. to 50s., all per quarter of eight Winchester buſhels.

Various obſervations have lately been received from that worthy and patriotic gentleman SIR JOHN SINCLAIR, Baronet, reſpecting a general encloſure bill. To divide and cultivate waſtes, commons, and common-field lands, muſt be admitted to be a meaſure of important national benefit, and well deſerving the moſt minute attention of the legiſlative body. It would not be difficult to arrange a bill to carry ſuch a meaſure into execution, provided general principles were only reſorted to; but if particulars are entered upon, and details given applicable to every branch of commonable land, difficulties may ariſe at the outſet, of ſufficient magnitude to overturn the beſt concerted plan.—— 15. *Feb.*

Yorkſhire Quarterly Report.

THE proof on the thraſhing floor of the different grains, the produce of laſt harveſt, may be ſtated as follows, according to appearances in this diſtrict.—Wheat, on the whole, tolerably good in produce, fine in quality, and drier than uſual. Barley rather leſs than an average, but good and dry in quality. Oats are ſtill more inferior, and beans and peas ſcarcely yield ſeed again. Notwithſtanding this fully aſcertained deficiency in ſome of the crops, the price of the various articles of grain remains ſteady at a moderate ratio; except, of late, ſome advance in that of beans, peas, and barley. Whether the preſent ſtate of the war will admit of importation, ſhould the home ſupply prove inadequate, may be doubtful; however, it is probable, that no ſpeculation in any of theſe articles

articles is now ventured upon to any large extent. The preſent prices here are,—Wheat 10s., Barley 6s., Oats 4s., Rye 6s. 6d., and Beans 8s. per buſhel of Winchester.

Potatoes have turned out a light crop; and, to add to the defect, many growers neglected to take them up in due time; ſo that a conſiderable proportion was materially injured by the ſevere froſts, which commenced earlier in the autumn than uſual. They are now ſelling at 4s. per buſhel upheaped.

The growing wheats, which generally were ſown later than common, have ſuffered materially, from the frequency of froſt, without ſnow, at the time they were beginning to appear above ground; ſo that a very thin ſprinkling of ſummer plants can only be expected, eſpecially on the poor and wet ſoils. However, there is nothing deciſive in preſent appearances.

Owing to the early froſts in September, and a conſequent partial growth of herbage in October, on ſuch lands as are liable to the rot, before vegetation has ceaſed for the ſeaſon, conſiderable loſs has been, and is likely to be, ſuſtained in ſheep ſtock. The wedders feeding on turnips are looking well in ſome places; but, from the uncommon failure of that crop in many parts of this diſtrict, in all probability they muſt ſhortly be ſold off, for want of food, to great diſadvantage and loſs. Some ſtockmaſters had bought large fields of turnip in the ſummer, when the crop was promiſing, which, from their failure, will coſt 2s. per week per ſheep for the wintering.

Fat and lean cattle and ſheep are at low prices for the time of the year. Pigs are rather increaſing in value. Beef, Mutton, and Pork, at 6d.; Veal 7d. per lib. The price of horſes of all ſorts is lower than for ſome time paſt.

The preſent proſpect, for the induſtrious claſſes of people in every branch of buſineſs, is gloomy beyond that of any former period; yet we muſt confeſs, that it is at preſent rather leſs ſo to the farmers than to many other claſſes of the people. How long it may be before they be compelled to yield in their turn, under their accumulated and accumulating burdens, a very ſhort time may enable us to conjecture.——*Feb.* 15.

Letter from a Farmer near Wakefield, February 17.

'The winter ſet in, here, the ſecond week in November; and a ſucceſſion of froſt, ſnow, and rain, has ſince continued alternately, changing every three or four days; and as ſome wheat then remained to be ſown, it was got into the ground rather unfavourably. In conſequence of this, it comes out very thin and irregular. Indeed, that which was ſown in December has yet ſcarcely made its appearance,—ſo unfavourable has the weather been to vegetation. We have had little ſnow to cover the ground; therefore, the young clovers, winter tares and rape, as well as wheat, are much hurt, and at preſent carry an unfavourable appearance, except what was ſown early, on land

in high cultivation. The few turnips that eſcaped the blight in September, are alſo greatly injured; of courſe, this uſeful root is become ſcarce, and dearer than ever remembered ſince its firſt cultivation. Thoſe who purchaſed ſheep for winter, fed on turnip (though at conſiderably reduced prices), will in all appearance have a bad concern, except they can keep through April, when it is expected butcher-meat will get ſcarce and dear; though, in the preſent ſtate of the country, it is doubtful whether the advance will compenſate for the great expenſe of ſheep-keep, which is now in ſome places as high as 1s. and 1s. 4d. per head per week. All kinds of winter food are dear; hay, 9d. and 10d. per ſtone of 14 lib.; oil-cake 13l. per ton. Our market has been tolerably ſupplied with grain ſince October, particularly with wheat, which has come to hand in great abundance from the ſouthern counties, where it was a heavy crop, and of the moſt excellent quality and condition. Every ſort of grain is rather looking up. Barley has already got dearer, and comes ſparingly to market. Leſs malt has been made than uſual; notwithſtanding which, it meets with a heavy ſale, in conſequence of the badneſs of trade, and want of employment to our manufacturers, which greatly reduces the conſumption.

'In conſequence of the ſcarcity of winter feed, I have been induced to try an experiment upon molaſſes, or treacle, as a food for cattle, and a ſubſtitute for oil-cake and bean-meal. I was led into this, from a paragraph I ſaw in the St James's Chronicle recommending it to the public, to be diſſolved in water, and given to the cattle to drink. I thought it would be more beneficial to mix it with their food; and as my turnips had failed, on which of late years I kept my milch cows, I was obliged to give oil-cake ground, mixed with malt-duſt, to make them milk. The quantity I gave each cow was 4 lib. oil-cake, which coſts 6d., with malt-duſt of the ſame value, each day, and as much hay as they would eat beſides; which made them milk very well. An account was kept of the quantity of milk and butter which came from three cows in one week, fed as above; and the next week 2 lib. treacle, which coſt 6d., diluted in water, and mixed with the like quantity of malt-duſt and hay, produced from the ſame cows an equal quantity of milk and butter. In order to make a further experiment, I gave the ſame quantity of molaſſes, with double the quantity of malt-duſt, and barley ſtraw in lieu of hay. The cows milked equally well, and gave as much butter as before, and that of a moſt excellent quality and flavour. This has convinced me, that molaſſes poſſeſs a large portion of nouriſhment for cattle; for I have tried malt-duſt alone, and did not find it to produce either much milk or butter; and where malt-duſt cannot be got, I have no doubt but it will anſwer very well to mix molaſſes with cut ſtraw, chaff, or other provender, the cattle being very fond of it in any kind of food, and will be a uſeful ſubſtitute for oil-cake or bean-meal, when the price does not exceed the preſent proportion with theſe articles. If you think this information is worth inſerting in your valuable work, you are at liberty to do

do it, as it may put ſome of your readers upon making further and more particular experiments.'

Northumberland Quarterly Report.

'In the report of the winter quarter of laſt year, it was remarked as being ſingular in having had no ſnow, and only three days of froſt, and thoſe at different times. This winter has been as remarkable for the contrary; and, I believe, there is not an inſtance, ſince the year 1739, of ſuch intenſe froſts ſetting in ſo early, and continuing ſo long.

In the beginning of November, we had ſtormy cold winds and wet; on the 10th, the froſt began; on the 13th, ſnow 3 or 4 inches deep; on the 20th, a dreadful ſtorm of driving ſnow, by which the roads in many places were blocked up, ſeveral lives loſt, and great numbers of ſheep, on the mountain farms, buried. Many of theſe were dug out alive; thoſe that were ſoon found may do well, but ſuch as lay under the ſnow a week or ten days, it is feared, will die in the courſe of the ſpring, and add to the numbers that have already periſhed. Another ſtorm of driving ſnow took place on the 7th December; and, from the 10th November to the 25th December, intenſe froſt prevailed, (except partial thaws on the 4th, 12th, and 13th December); from the 25th to 29th, freſh and much rain; from theſe to the preſent (with the exception of freſh from the 6th to 11th January) the froſt has continued, with now and then a day of *partial thaw*, which unfortunately diſſolved the little ſnow there was, and left the turnips expoſed to the ſeverity of the froſt; which, as might naturally be expected, from ſuch ſudden and alternate changes, have ſuffered materially. The ſtorm of driving ſnow on the 13th, ſeems to have been general; but, to the ſouthward, much more has fallen than in this neighbourhood. On the 17th, a thaw came on, which, it is to be hoped, may continue.

The extent of the injury done to the turnips, is not yet known; but the effect is beginning to be felt, by Morpeth market being crowded with ſtock, which moſt probably will be the caſe for ſome weeks, and the prices of courſe reduced; though, after this glut is over, there is not a doubt but they will get up again.

The uſual operations of huſbandry have been much impeded by the continuance of ſuch uncommon weather; a great deal of land is yet to plough, which ought to have been done before Chriſtmas; and much of what has been done, has been ploughed with too much froſt in it.

There is very little ſpring wheat yet ſown upon the dry lands after turnips; and the fallows upon wet ſoils, that could not, from the wetneſs of the ſeaſon, be ſown laſt autumn, have at preſent a precarious proſpect of being ſown with wheat this ſpring to advantage.

The markets for live ſtock, which were ſo very low in the autumn, have been gradually riſing. Beef is now from 6s. to 7s. per ſtone of 14 lib. ſink; and mutton, 6d. to 7d. per lib. ſink.—*Feb.* 20.

Letter from London, 23d February.

'The corn trade has paſſed through the winter quarter in a ſtate of tranquillity little expected by thoſe who, at the cloſe of the harveſt, be-

lieved in the reports of defolated crops, ruined farmers, and dearth of bread.

'This market has been very abundantly fupplied with the two primary articles of conſumption, wheat and oats; and indeed, there has not been any want of corn of the other kinds, although the almoſt excluſive ſource from whence theſe ſupplies have been drawn, is the counties on the eaſt coaſt, without either the foreign aid of America or the Continent of Europe, or even of Scotland, which have all formerly furniſhed conſiderable quantities of wheat, flour, and oats; but which do not this year afford the proſpect of contributing to our wants.

'Yet, ſo regularly and adequately have the quantities of corn come forward, that although extenſive purchaſes of wheat have been made, upon the ſpeculation of a war with America,—the preſſure of the breweries and diſtilleries being all at full work,—and the uſual increaſed conſumption of oats at the meeting of Parliament,—ſuperadding the demand for ſpring ſeed of all kinds;—the only impreſſion lately felt, has been a gradual decline in price, and a dulneſs in ſale of all ſorts, excepting barley, which has experienced a trifling advance.

'Very favourable expectations were formed, after harveſt, of the qualities of the corn in the ſouthern counties. But after the firſt deliveries, the wheat has not turned out in general ſo fine in plumpneſs and condition. The barley from ſome diſtricts has proved thin and flinty. Oats are deficient in weight, and particularly ſo from the newly drained fen lands. The beans are handſome and dry, but are all more or leſs hollowed out by the worm, and very light. Peas of both kinds are ſmaller than uſual. Rye and tares ſeem to be the moſt perfect produce of the laſt year.

'The quantity of wheat and barley at market yeſterday (Monday) was leſs than it has been for ſome weeks paſt. Of oats, beans, peas, and malt, there was abundance. The prices of all kinds are noted below, on which we do not look for any immediate or material alteration, unleſs occaſioned by ſome external cauſe which we are not at preſent aware of.

Wheat, Eſſex, Kent and Suffolk White	72s.	74s.		
——— ditto and Norfolk Red -	68s.	70s.	72s.	
——— North Country - -	65s.	68s.	70s.	
——— Dantzic and Koningſberg -	63s.	68s.		
——— Ruſſia and Courland - -	50s.	56s.		
Barley, Norfolk and Suffolk -	42s.	46s.	48s.	
——— North Country - -	36s.	40s.		per quarter
Malt, Norfolk and Suffolk - -	68s.	76s.		Winchester.
Rapeſeed, per laſt of 10 quarters - -	32l.	33l.		
Rye - - - - - -	50s.	52s.		
Beans, Pigeon and Small - -	54s.	56s.	60s.	
——— Ticks and Large - -	52s.	54s.	55s.	
Peas, White Boilers - -	150s.	160s.	168s.	
——— Hog or Grey - - -	62s.	65s.		

Oats,

Oats, Potatoe	-	-	-	40s.	41s.
—— Poland	-	-	-	35s. 36s.	38s.
—— Feed (or thin)	-	-	-	32s. 35s.	36s.
Flour, English, per ſack	-	-	-	60s.	63s.
—— American, per 196 lib.	-	-			38s.
Tares, per buſhel	-	-	-	21s.	22s.

per quarter Wincheſter.

To give you a juſt idea of the amplitude of the ſupplies which have been brought to this market from our own counties during the winter, it may not be amiſs to ſtate, that the average weekly quantities have been, of

Wheat about	7500 quarters.
Barley ——	6000
Malt ——	5000
Oats ——	14000
Beans ——	1200
Peas ——	600

Beſides conſiderable (unaſcertained) quantities of flour and malt, by the inland navigations.

The ſeverity of the winter is ſuppoſed to have injured the growing crop of rapeſeed; but no complaints are made on the appearance of the wheat fields in the neighbouring counties.

POSTSCRIPT TO FIRST BRANCH.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

HAVING obſerved in Saturday's Courant, that a Committee is appointed in the Houſe of Commons, to conſider the propriety of allowing ſugar to be uſed in diſtillation at the preſent grain duties; and underſtanding that this Committee is likewiſe to inquire into the expediency of permitting ſpirits made in Ireland to be imported into Scotland, upon paying *at landing* the nominal duty charged the Scotch diſtiller, I take the liberty (through the medium of your Magazine) of putting the landed intereſt on their guard againſt a meaſure which muſt prove ruinous to the Scotch diſtillers, and, of courſe, greatly injurious to the landholders and farmers. I believe I ſpeak the ſentiments of both the land proprietors and diſtillers of Scotland, when I ſay they expect no excluſive advantage over either their Iriſh neighbours or the Weſt India planters; and if the Committee ſhall ſee it neceſſary, for a period, to turn the diſtillers on ſugar, to relieve a little the Weſt India adventurers, I am perſuaded that neither of them will make any objections. I do not, however, perceive any imperious call for the Scotch tamely ſurrendering their birthright *altogether* to the Iriſh nation. The ſituation of the diſtillers in the two countries is widely different; for, while the Iriſh diſtiller was working to advantage on the propoſed plan, the Scots diſtiller would either be driven from his own market, or to ruin. In Ireland, the diſtillers are

ſubjected

ſubjected to no inconvenient reſtrictions; and the revenue is either managed *with great liberality*, or *much avoided*. In Scotland, the preſent law is full of reſtrictions highly injurious and expenſive; while the revenue is ſecured with the greateſt accuracy, and without any deduction whatever. In Ireland, a ſtill of 3000 gallons has only to produce about 5000 gallons of ſpirits per week. In Scotland, a ſtill of 120 gallons has to make nearly the ſame quantity of ſpirits, or is charged duty for ſo much. The proportions fixed by law for the Scots, moſt, if not all, diſtillers have found great difficulty in reaching; and, owing to this, many of them have, in place of paying 5s. 3d. (the nominal duty) on the gallon of ſpirits diſtilled, actually paid 6s., and ſome 6s. 6d. per gallon. In Ireland no ſuch hardſhip exiſts. It is a well known fact, that the Iriſh diſtillers can make double the quantity of ſpirits required by law; and for the duties on the ſpirits conſumed at home, a diſcount of about 16 *per cent.* is allowed; and on exportation, the advantage in this way will ſtill be greater. Their large ſtills, and the time allowed, enables them to make their ſpirits to any ſtrength they chooſe, which, of courſe, induces them to fix upon that degree moſt to their advantage;—this, with the ſhore-gauging and duties being *only payable at landing* (while the Scots pay a great part of them in advance, and all their arrears at the end of every month), gives a preference to the Iriſh of at leaſt 20 *per cent.* on duties; and if the advantages reſulting from their method of working, independent of ſavings from the revenue, are taken into view, they cannot be computed at leſs than 10 *per cent.*, making together 30 *per cent.* of ſure preference to the Iriſh over the Scots diſtiller. Nothing can illuſtrate more clearly the inequality of the meaſure commented upon, than the following example. In 1807, a quantity of ſpirits was exported to Ireland from Scotland: the law, then exiſting, but now ſuſpended, allowed a drawback here of 8s. 2½d per gallon, and only required about 4s. 10d. of duty to be paid in Ireland; yet, notwithſtanding this preference of 3s. 4½d., there was a loſs, in ſelling theſe ſpirits in Dublin, of 6d. per gallon to the Scots manufacturer. In 1805, under the ſame duties, the Iriſh diſtillers exported ſpirits to Scotland, and with advantage. Lately, the price of ſpirits in Dublin was, excluſive of duty, only 1s. 6d. per gallon; and here they cannot be made under 4s. From theſe facts, it muſt appear obvious, that if Iriſh ſpirits are allowed to be imported into Scotland at the nominal duty of 5s. 3d. per gallon, the Lowland diſtillers muſt be annihilated. Works which have coſt more than half a million in erecting, which pay nearly 700,000l. annually of duty, and which conſume yearly upwards of 200,000 bolls barley, principally of the growth of Scotland, will be rendered uſeleſs. The grain moſt congenial to the ſoil of a great part of Scotland will be unſaleable at home; the feeding of cattle from the grains will be at an end; a conſequent ſcarcity of fat cattle in winter and ſpring will be ſeverely felt; and the offals, ſo highly beneficial to agriculture, will be transferred to another part of the empire. Does not, therefore, ſuch a meaſure, which ſtrikes at the root of the principal ſource of revenue; carries

off

off the conſumption of barley; puts an end to the feeding of cattle in the uſual way, and affects materially the whole agricultural intereſt of Scotland,—call loudly for the interference of landed proprietors? If government does not ſee the propriety of putting all the diſtillers in England, Ireland and Scotland, under the ſame regulations and duties; or if they do not conſider it as expedient to confine the conſumption of ſpirits in the different countries to thoſe manufactured therein reſpectively, it certainly cannot be thought an unfair propoſal, to cauſe diſtillers, working for exportation, to be placed exactly under the ſame ſurvey, and in every reſpect under the ſame regulations and duties as the diſtillers are in the country to which ſuch ſpirits are to be exported. While every attempt is laudably made to conciliate Ireland, let us be cautious we do not, in the clamour of party, loſe ſight of thoſe maxims of impartiality and juſtice, which ought to regulate all laws. If it is wiſhed to give Ireland an opportunity of extending her trade, let her have what ſhe is in juſtice entitled to, but let not her proſperity be raiſed on our ruin. I have haſtily made theſe remarks, truſting they will ſtimulate our countrymen to take an intereſt in this ſubject; and am ſatisfied, if a fair repreſentation is made to his Majeſty's miniſters, nothing but what is judged for the intereſt of both countries will be paſſed into a law. Hoping, therefore, that ſuch ſteps will be taken by our landed proprietors and repreſentatives in Parliament, as effectually to preſerve the juſt rights of all concerned, I am,

29. *Feb.* 1808. A Friend to Trade.

OBITUARY.

Died at Amisfield, near Haddington, on Wedneſday the 20th January laſt, Francis Lord Elcho, a nobleman, whoſe truly amiable manners endeared him to all who were honoured with his acquaintance; the whole tenor of whoſe active life ſeemed to be one continued ſeries of kindneſs, friendſhip and philanthropy.

Many, every day, take their departure *for that undiſcovered country, from whoſe bourne no traveller returns*; but few or none quit this ſublunary ſcene, whoſe *loſs* is more ſeverely *felt*, whoſe *memory* will be more *revered*, or who *lived* more *reſpected*, and deſervedly *beloved*.

Verſes on the above lamented Event.

As trembling mortals to the grim tyrant, Death,
Reluctant yield their laſt, their fleeting breath;
So all muſt fall beneath his iron rod,
Whoſe mandate's iſſued by Almighty God.—
Shall Worth and Merit ſink to endleſs reſt,
Whilſt Memory holds her ſeat in Friendſhip's breaſt?
No; ſince in Elcho thoſe conſpicuous ſhone,
Be this fair ſcroll inſcrib'd upon his ſtone.

Scroll.

Peace to thy manes: Gentle was thy mind;
In virtue *active*, in *affections* kind:
Thy loſs, the fatherleſs and widow mourn,
Whilſt *orphans'* tears embalm thy ſacred *urn*.

The

THE above character, and accompanying verſes, furniſhed by a reſpectable correſpondent, give a correct view of Lord Elcho, as a man, as a friend, and as a neighbour. But, wiſhing to pay the fulleſt tribute of regard to departed worth, we add a few things reſpecting his Lordſhip as an agriculturiſt, a ſubject particularly connected with the deſign of this work, and which ought not to paſs unnoticed.

LORD ELCHO, at an early period, ſhowed a predilection for agriculture; and, in later years, his attention was in a great meaſure engaged by that art. He had ſtudied the principles of agriculture more minutely than many of his contemporaries, and thereby was enabled to conduct every practical operation in the moſt approved and perfect manner. His land was always clean, well drained, and richly manured; and he was more diligent and attentive in gathering and preparing compoſt middens than any perſon we ever witneſſed. With regard to fencing, planting and gardening, ſubjects which are particularly within the province of the gentleman agriculturiſt, his Lordſhip was diſtinguiſhed for poſſeſſing the fulleſt knowledge, and for executing each of them with ſingular exactneſs; and in lining off, making and repairing roads, he was eminently judicious, and remarkably accurate. His activity, on all occaſions, was conſpicuous; and he ſpared neither trouble nor expenſe in executing the various improvements which occupied his attention. With the judgment of an *amateur* he formed his plans; and they were all executed with the like preciſion as might be expected from the beſt actual farmer.

The writer of this article ſpeaks of his Lordſhip's conduct from perſonal knowledge and daily obſervation: but, had he been at any loſs to aſcertain Lord Elcho's talents as an agriculturiſt, he might have gathered ſufficient evidence at the roup of his farm-ſtock on Saturday laſt, (7th February.) There, every article appeared to be of the beſt kind, and in the higheſt condition. The implements of huſbandry were numerous, and all of ſuperior qualities; while the milch cows were deſervedly conſidered as much better choſen than thoſe generally found in Scotiſh dairies. Nay more; every fence and every road ſeemed to be in the beſt poſſible order; whilſt the farm-offices preſented a picture, wherein neither neatneſs nor ornament were diſregarded. In a word, the ſight of the farm and farm-ſtock would have gratified the beholder, had he not been reminded, at every ſtep, of the event which produced the ſight he was then witneſſing.

Upon the whole, the death of Lord Elcho may be regarded as a ſevere blow to the diſtrict with which he was chiefly connected. He did much good, under circumſtances comparatively limited; but had Providence ſpared him till theſe circumſtances were changed, in all probability he would have proved a bleſſing to his country, to his friends, and to the numerous tenantry of his family eſtates. He was eſteemed by all when alive; and now, when gone, reſpect to his memory is indelibly impreſſed upon every heart. N.

[The

[The following Tablet to the memory of Thomas Davis, Esq., an nent agriculturiſt in Wiltſhire, is inſerted at the requeſt of Sir] Sinclair, Bart.]

TO THE

Highly-merited Honour

Of that moſt uſeful

Benefactor and Ornament of his Country,

THOMAS DAVIS,

Of Longleat and Horningſham,

In the County of Wilts, *Gentleman;*

Who had been an invaluable Member of

The Bath and West of England Society

From its original Inſtitution:

A Man, in whom very ſuperior Talents,

and the

Moſt rare Attainments of uſeful and ſcientific Knowledge,

Were combined with the moſt ardent Exertion;

and

The moſt luminous Faculty of general Communication,

With the moſt active Benevolence, and

Suavity of Manners:

All which Qualities were equalled only by his

Incorruptible Integrity!

He departed this Life, univerſally regretted,

On the 10th day of November;

And the Annual Meeting of the ſaid Society,

On the 1ſt day of December following,

By a warm and unanimous Vote, decreed

This Tablet,

To ſignalize his Name,

and

To perpetuate their Remembrance of

His Virtues:

Anno 1807.

NOTICES TO CORRESPONDENTS.

We are much obliged to *A Conſtant Reader*, for the ſeveral communications lately ſent us; but he muſt be aware, that we cannot *print* ſo faſt as he *writes*. One of his papers will appear in next Number. We cannot undertake for more.

The letter from SEVERUS, on the improvement of the country by-roads, &c. ſhall not be neglected. The like notice may be given concerning the paper on the Fife and Perth canals, which, at this time, could not be undertaken. Temporary articles claim our firſt attention; but, in other reſpects, the ſtricteſt impartiality will be exerciſed.

In our next Number, the copy of a leaſe, drawn up by profeſſional gentlemen for the guidance of a large eſtate in Scotland, ſhall be ſubmitted to the conſideration of our readers. We promiſed inſertion in this number, but were unable to perform. Remarks from practical agriculturiſts are reſpectfully ſolicited.

The excellent obſervations of our worthy friend T. S. S. are neceſſarily poſtponed, together with thoſe of *A Kenſiſh Grazier*. Both were in the *roll*; but the time of the court would not allow them to be called.

The amendments propoſed on the *Plan for cutting Tangle or Seaware*, p. 58, were too late in reaching us. We are ſorry to learn, that the *Tangle Gatherer*, upon trial, is found to be defective.

A great many papers are under conſideration. We thank the ſeveral writers for aſſiſting us ſo liberally, and ſhall bring forward as faſt as poſſible thoſe entitled to inſertion.

We are extremely ſorry that room for little more than half of the intelligence furniſhed could be got in this Number. Independent of the curtailments made almoſt on every article, we were under the neceſſity of keeping back the Eaſt Lothian, Roſs, Dumfries, Fife, and Eaſt Riding of York reports, with various letters of intelligence from different gentlemen. We beg our reporters will excuſe theſe omiſſions, eſpecially as it was not in our power to avoid them.

No. XXXIV. will be published on the first Monday of June.

☞ The Reverend MR CAMPBELL, Kilcalmonell, requeſts that the following liſt of *Errata*, in his two papers No. 31. & 32., may be given.

No. 31. p. 288. 15th line from the top, inſtead of *ridges*, read *wedges*.
No. 32. p. 414. line 14th from the bottom, inſtead of *but reduced to a ſcale of one tenth of an inch to one inch*, read *but on a reduced ſcale*.
P. 415, line 17th from the top, inſtead of *Fig.* 1. read *Fig.* 2.—
In the plate prefixed to No. 32. article *Cramp*, read 9 inſtead of 7, 3 inſtead of 5, 5 inſtead of 3, 7 inſtead of 8, and 8 inſtead of 9.

D. WILLISON, PRINTER, EDINBURGH.

HIGHLAND SOCIETY-HALL, *Edinburgh*, 29. *Jan.* 1808.

THE

HIGHLAND SOCIETY OF SCOTLAND

DO HEREBY ADVERTISE,

THAT THEY ARE TO GIVE THE UNDER-MENTIONED

PREMIUMS

IN THE YEAR 1808.

ESSAYS.

I. A PIECE of Plate, of *Thirty Guineas* value, will be given for the best and approved Essay, giving a distinct account of the *Present State* of the District of Country comprehended within the following boundary; viz. from Livingstone, by the east side of the parish of West Calder, to Carnwath; and from Carnwath, by Lanark, to Dalzel, and from thence in a straight line to the Monkland Canal, and from thence back to Livingstone, describing the various improvements of which it is susceptible, the means of effecting these, and the difficulties and obstacles which are to be surmounted, together with any local advantages deriveable to that district itself, or any other adjacent to, and connected with it, from manufactures, mines, or minerals, especially coal.—Essays on this subject to be given in before 1st November 1808.

II. A piece of Plate, of *Thirty Guineas* value, will be given for the best and approved Essay, giving a distinct account of the *Present State* of that part of the County of Inverness comprehended within the following boundaries; viz. the boundary of the county with Argyllshire, from the Western Ocean, until it reaches Fort-William; from thence by the proposed line of the Caledonian Canal, until it reaches Glenurchart; from thence by Strathfarar to the boundary of the county with Ross-shire; from thence, by the same boundary, until it reaches Kylerhea, together with the Isle of Skye, and the small islands connected with it; describing the various improvements, in point of rural economy, manufactures, mines, minerals, and fisheries, of which it is susceptible; the means of effecting these, and the difficulties and obstacles to be surmounted; together with a view of any local advantages possessed by that district itself, or any other adjacent to, or connected with it, tending to its improvement, so as to comprehend, on the whole, an account of the most effectual means of obtaining the utmost and most valuable produce from the land and sea.

N. B. If the information received in consequence of these Premiums proves satisfactory, the Society have it in view to offer similar Premiums for other districts of Scotland.

III. It being understood that different varieties of Wheat, Barley, and Oats, are respectively adapted for different soils and situations, a piece of Plate, of *Thirty Guineas* value, is hereby offered for the best and approved Essay on the circumstances which distinguish the varieties of these grains, chiefly deserving of culture; and on the situation, soil, and climate, adapted to each, determined by accurate experiments, or by a reference to well-authenticated facts. It would be desireable that specimens, weighing not less than one pound of each of the different varieties described, should be delivered in along with the Essays; and that the Essays should contain a particular account of such soil, together with its exposure and elevation; and should also state the places where these experiments and observations have been made.

To afford time for collecting facts and making experiments, the Premiums for subjects 2d and 3d will not be adjudged until the 1st December 1809. But communications on these subjects will be received at any time before then, and noticed according to their merit.

IV. A piece of Plate, of *Twenty Guineas* value, will be given for the best and approved Essay or Communication in answer to the following questions—'How far do frosts, and considerable degrees of cold, retard, or totally prevent, the further filling and ripening of Corn, particularly Oats? And in what stages of vegetation or approaching ripeness are the worst effects to be apprehended? What are the stages of growth and ripeness? And what are the peculiar states of the weather, and other circumstances, in which Corn, particularly Oats, are rendered unfit for seed? And to what degree, and by what appearances, can the point of distinction between the good and the bad seed be readily ascertained?'

N. B. The Society is very desirous of receiving the most accurate answers to these queries respecting Corn; and it is therefore expected that, when the author draws inferences, they are to be supported by practical facts, or correct and well-authenticated experiments, on such a scale as may warrant a general conclusion.

V. A piece of Plate, of *Thirty Guineas* value, will be given for the best and approved Essay or Statement, giving a view of the advantages which may be derived from the general introduction of the Stapling of Wool into Scotland, with a proposal of an eligible method of accomplishing that object.

VI. A piece of Plate, of *Ten Guineas* value, will be given for the best and approved Account, verified by Experiment, of the most economical method of Charring or Carboning Peat or Moss, and rendering it fit for the Burning of Lime, and for the uses for which Charcoal or Charred Wood is applied.

A Specimen of the Charred Peat, not less than Two Pounds ight, to be produced.

RULES OF COMPETITION.

In all these Essays, it is expected, that when facts not generally known are stated, they will be authenticated by proper references; and also that the Essays will be written in a fair and legible hand. The Society would likewise recommend, that one page of the folio may be left blank for any observations which may occur to Members of the Society on perusal.

The Essays on Subjects 4th, 5th, and 6th, to be lodged with the Depute Secretary of this Society, on or before 1st November 1808. Each Essay must be inscribed with some distinguishing motto or device.

A sealed note, containing the Author's name, and inscribed on the back with the motto or device of his Essay, must be lodged with the Essay; and when the motto or device on the Essay or sealed note is neglected by the Author, such Essay will not be allowed to compete for any Premium.

N. B. None of the sealed notes, except those which bear the distinguishing motto or device of Essays found entitled to the whole or a part of the Premium advertised, will be opened; and the Society are to be at liberty to publish the Essays, or extracts from them, for which the Premium, or any part of it, shall be adjudged. And such Essays as are not found entitled to any Premium, or part of it, will be returned to the Authors when called for. Further, upon application from the gainer of any of these Premiums, the Society, in such cases as they may see proper, will allow them to be given in money.

CULTIVATION OF OSIERS AND WILLOWS.

OSIERS.

To the person in Scotland who shall raise the greatest quantity of Osiers, not less than half an acre, and not fewer than 6000 planted on the half acre, in spring or autumn 1808, or spring 1809, and which shall be fit for making baskets in the year 1809 or 1810—A piece of plate of *Ten Guineas* value, or that sum in money.

WILLOWS.

To the person in Scotland who shall raise the greatest quantity of Willows, not fewer than 10,000, planted in spring or autumn 1085, or spring 1086, and which shall be cut for making barrel hoops in the year 1809—A piece of plate of *Twelve Guineas* value, or that sum in money.

N. B. The plantations must be sufficiently fenced from cattle, and kept free of grass and weeds; and certificates thereof, and of the planting the Osiers, and of the number and size of the Willow Hoops, must be subscribed by two Members of this Society, or by one Member, along with a Justice of the Peace, or the Minister of the parish, who shall state the causes of their knowledge of the facts set forth in the certificate.

CLASS FIRST.

PREMIUMS for TURNIPS and SOWN GRASSES, and IMPROVEMENT of BARREN LANDS, in the following Diſtricts of ROSS-SHIRE.

DISTRICTS.

1, The Iſland of Lewes.

2. The Pariſhes of Glenſheal, Lochalſh, and that part of the pariſh of Kintail, lying in the county of Roſs.

3. The Pariſhes of Lochcarron, Applecroſs, Gairloch, and Lochbroom.

4. The Countries of Strathconnon, Strathbran, and Strathgarve, and the other Highland Diſtricts of the pariſhes of Urray, Fodderty, and Contin.

To the tenant in each of the 1ſt, 2d, and 3d diſtricts, who ſhall have the greateſt extent (not leſs than two Scots acres) of his arable land under a Turnip Crop, three times hoed in the year 1808—*Six Guineas.*

To the tenant in each of ſaid diſtricts who ſhall have the next greateſt extent as aforeſaid (not leſs than one Scots acre)—*Four Guineas.*

To the tenant in each of the ſaid 1ſt, 2d, and 3d diſtricts, who ſhall have the greateſt extent (not leſs than three Scots acres) of his arable land properly ſown down, after any green crop, with a crop of Red Clover and Ryegraſs, the crop to be carefully protected from cattle, ſheep, &c. in the year 1808—*Seven Guineas.*

To the tenant in each of the ſaid diſtricts who ſhall have the next greateſt extent (not leſs than two Scots acres) managed as aforeſaid—*Five Guineas.*

To the tenant in the fourth diſtrict who ſhall, before the 1ſt day of November 1808, bring into arable culture the greateſt extent of land, (not hitherto improved or in cultivation, and not leſs than one Scots acre)—*Seven Guineas.*

For the next greateſt portion as aforeſaid—*Five Guineas.*

For the third greateſt portion—*Three Guineas.*

N. B. Certificates as to the Premiums in the above mentioned diſtricts, muſt be ſubſcribed by two Members of the Society, or by one Member along with a Juſtice of the Peace, or the Miniſter of the pariſh; and, as to the Turnip and Sown Graſſes, muſt ſpecify the particulars in the reſpective articles above ſet down, with any other circumſtances relative to the mode of cultivation which may appear material, and muſt be tranſmitted to the Depute Secretary of this Society, on or before 1ſt December 1808.

Certificates of Improvements of Barren Land muſt ſpecify the extent of the ground improved, with its ſituation and quality before and condition after the improvement; alſo the mode of im-

provement, with the period of its commencement, and the quantity and quality of the crop produced. To be tranſmitted to the Depute Secretary, on or before the 20th November 1808.

It is propoſed to continue the above Premiums in the before ſpecified diſtricts of Roſs-ſhire, for the years 1809 and 1810, ſubject to ſuch alterations as the Society may ſee proper.

CLASS SECOND.

PREMIUMS for TURNIPS and SOWN GRASSES in the County of ARGYLL.

To the tenant in the diſtrict of Cantyre who ſhall have the greateſt extent (not leſs than three Scots acres) of his arable land under a crop of Turnips, three times hoed in the year 1808—*Six Guineas.*

To the tenant in ſaid diſtrict who ſhall have the next greateſt extent as aforeſaid (not leſs than two Scots acres)—*Four Guineas.*

To the tenant in ſaid diſtrict who ſhall have the greateſt extent (not leſs than four Scots acres) of his arable land properly ſown down, after any green crop, with a crop of Red Clover and Rye-graſs, the crop to be carefully protected from cattle, ſheep, &c. in the year 1808—*Seven Guineas.*

To the tenant in ſaid diſtrict who ſhall have the next greateſt extent (not leſs than three Scots acres) managed as aforeſaid—*Five Guineas.*

N. B. Certificates as to the above Premiums in Cantyre, Argyllſhire, ſubſcribed by two Members of the Society, or by one Member along with a Juſtice of the Peace, or the Miniſter of the pariſh, ſpecifying the particulars required in the reſpective articles as to Turnips and Sown Graſſes, above ſet down, with any other circumſtances, relative to the mode of cultivation, which may appear material, muſt be tranſmitted to the Depute Secretary, on or before the 1ſt of December next, as to the Turnip Premiums; and as to the Sown Graſſes, from 1ſt to 10th December 1808.

CLASS THIRD.

PREMIUMS for improving the Breed of BLACK CATTLE, in the following Diſtricts of the Counties of DUMBARTON, BUTE, and ARGYLL.

DISTRICTS.

The firſt diſtrict to contain that part of Dumbartonſhire to the weſt of the river Leven.

The ſecond diſtrict to contain the iſland of Arran, in the county of Bute.

The third diſtrict to contain the diſtrict of Cowal, in the county of Argyll.

The fourth to contain the diſtrict of Argyll, in the county of Argyll.

PREMIUMS.

For the beſt Bull, from two to ſeven years old, being the property, or in the poſſeſſion of any perſon in each of the above diſtricts, and kept on their farm or town, from the firſt day of June to the day of competition—*Ten Guineas.*

For the ſecond beſt Bull, from two to ſeven years old, belonging to, or in the poſſeſſion of any perſon in each of the above four diſtricts, and kept by him on his farm or town for the foreſaid period—*Five Guineas.*

For the beſt Quey of three years old, the property of, and bred by the competitor in each of the above diſtricts—*Five Guineas.*

For the ſecond beſt Quey, three years old, the property of, and bred by the competitor in each of the four diſtricts above mentioned—*Three Guineas.*

The following Members of this Society (as none but actual Members, or their factors in their abſence, can be named) are hereby appointed Judges for the different diſtricts in the order above mentioned, viz.

For the firſt diſtrict, Sir James Colquhoun of Luſs, Baronet, C. C. Graham Eſq. of Gartmore, William Ferguſſon Eſq. of Raith, or, in his abſence, the Factor on the eſtate of Arrochar, James Deniſton Eſq. of Colgrain, Hector MacDonald Buchanan Eſq. of Roſs, and John Buchanan Eſq. of Ardoch; any two of them a quorum. Mr Deniſton to be Convener.

For the second, Right Hon. Lord Archibald Hamilton, Hon. Lord Bannatyne, James Lamont, Esq. of Knockdow, and John Fullerton, Esq. of Kilmichael, with the assistance of any other Members of the Society they can procure. Mr Lamont to be convener.

For the third, Sir Alexander Campbell of Ardkinlass, Bart. John Lamont of Lamont, Esq. Donald MacLachlan of MacLachlan, Esq. John Campbell, Esq. of South-hall, Duncan Campbell, Esq. of Glendaruel, and John Fletcher, Esq. younger of Dunans—any two of them a quorum. Mr Campbell of South-hall, or, in his absence, Glendaruel, to be convener.

For the fourth, Major General Campbell of Loohnell, Neil Malcolm, Esq. of Poltalloch, Colin Campbell, Esq. of Kilmartin, or Major D. Campbell, younger of Kilmartin, John MacNeil, Esq. younger of Oakfield, H. T. Campbell, Esq. younger of Ashnish, John Campbell, Esq. of Kilberry, John Campbell, Esq. of Craigineure, Lieutenant Colonel Humphrey Graham, David Campbell, Esq. of Comby, Neil MacGibbon, Esq. of Glassvar, Donald Campbell, Esq. of Sonachan, John Gregorson, Esq. of Durran—any three of them to be a quorum. General Campbell, or in his absence, Lieutenant Colonel Graham, to be convener.

RULES OF COMPETITION.

The times and places of competition are to be fixed by the Conveners, with the advice of at least a quorum of their respective Committees; and the competitions are to take place betwixt the 1st day of August and the 1st day of November next.

The Convener of each Committee is to give timely notice to the other Judges of the district, of the place and day of competition, and to be particularly careful that the same be intimated on the respective parish church-doors of the districts, for at least two successive Sundays previous to the competition.

In order to entitle the competitors to their respective premiums, a regular report, subscribed by all the judges who attend the competition, must be transmitted by the Conveners to the Depute Secretary of this Society, on or before the 10th December next at furthest; and which report must bear the ages of the bulls and queys preferred, the length of time the bulls have been in possession of the competitors; and, with respect to the queys, that they were bred by the competitors, and were their property on the day of competition; the place and day of competition; the number of bulls and queys respectively produced thereat; and, in general, that all the rules of competition fixed by the Society, as above-mentioned, have been strictly observed; and, in particular, that the previous intimation to the Judges, and advertisements at the church-doors, were timely and regularly made, as before required.

CLASS FOURTH.

To PLOUGHMEN for Improvement in PLOUGHING.

The under-mentioned sums will be distributed this season, in Premiums to Ploughmen, in the following Districts, viz.

1. Ten Guineas in the Monteith district, south of the river Teath, including the parishes of Kilmadoc, Callender, Port, Aberfoyl, Kippen in Perthshire, Kincardine, and Balquhidder.

2. Ten Guineas in the Crief district of Perthshire.

3. Ten Guineas in the Stormont district of Perthshire, to contain the parishes of Lethindy, Blairgowrie, and Pendocy, to the west of the river Erricht; Kinloch, Cluny, and Caputh, to the east of Stenton.

4. Ten Guineas in the Dunkeld district, including the country of Atholl, and others to the north of the Tay, from the river Tumble on the west, to the lands of Stenton on the east; and, on the south, the lands called the Bishopric, Strathbraan, Murthlies, and Arntilly.

5. Ten Guineas in the Cushiville district of Perthshire, including also Strathtay, on both sides of the river, to the Tumble.

6. Ten Guineas in the county of Nairn.

The whole of the above Premiums in this Class to be competed for at such places and times, and in such manner as the Members of the Society, resident in the respective districts, shall find most proper; these Members being appointed as Committees for that purpose.

Sir John Macgregor Murray Bart. for *Monteith*; Sir Patrick Murray Bart. for *Crief*; Sir Alexander Muir Mackenzie Bart. (in his absence Colonel MacPherson of Blairgowrie) for *Stormont*; his Grace the Duke of Atholl (in his absence Thomas Palliser Esq., his Grace's factor) for *Dunkeld*; Sir Robert Menzies Bart. (in his absence Neil Menzies Esq. younger of Menzies) for *Cushiville*, districts of Perthshire; and Hugh Rose Esq. of Kilravock, for *Nairnshire*, to be Conveners, with instructions to report in writing to the Society, on or before 30th December 1808;—it being understood, that any ploughman who may have formerly got the highest Premium, shall not be allowed to compete.

The Society, in addition to the above sums of Ten Guineas, likewise give a First and Second Silver Medal to the best and second best Ploughman in each of the above districts. The Medals to be had of the Depute Secretary, on application from the Conveners.

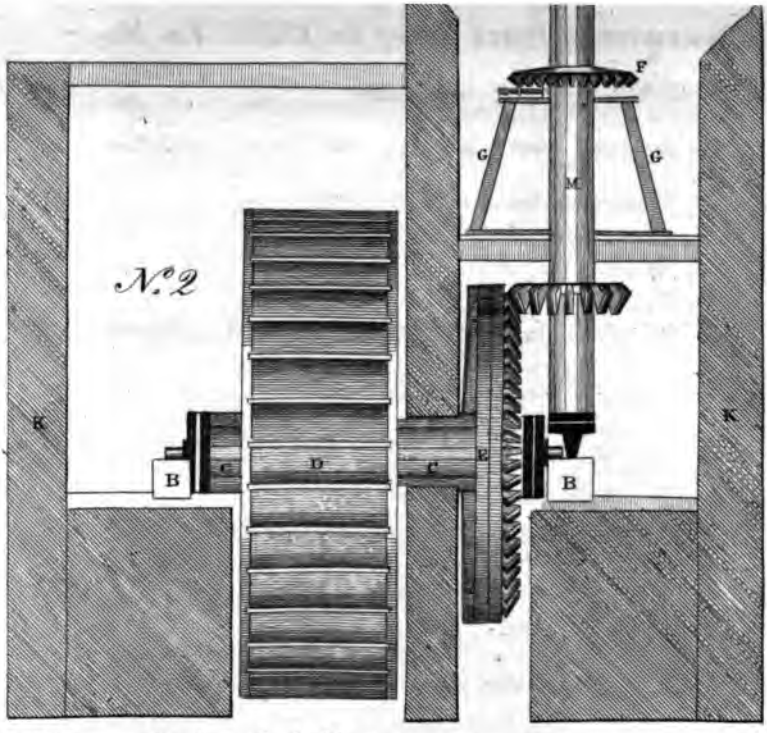
The Society further, being desirous that, in those counties and districts where ploughing-matches were formerly given by the Society, (viz. Ayr, Dumfries, Wigton, Dumbarton, and Peeblesshire, Upper and Middle Wards of Lanarkshire, Stewartry of Kirkcudbright, districts of Dunblane, Perthshire, and Kintyre, Argyllshire), the Country Gentlemen should themselves continue to encourage improvement in this branch of husbandry, by instituting ploughing-matches;—the Highland Society will give a Silver Medal to the ploughman found to be the best at each of the first four competitions instituted by the resident Gentlemen in each of these last-mentioned districts in 1808; it being required that twelve ploughs at least shall start at each competition.

N. B. Reports of such ploughing-matches must be certified by at least one Member of the Society, and transmitted to the Depute Secretary, from whom the Medals will be received.

By Order of the Directors.

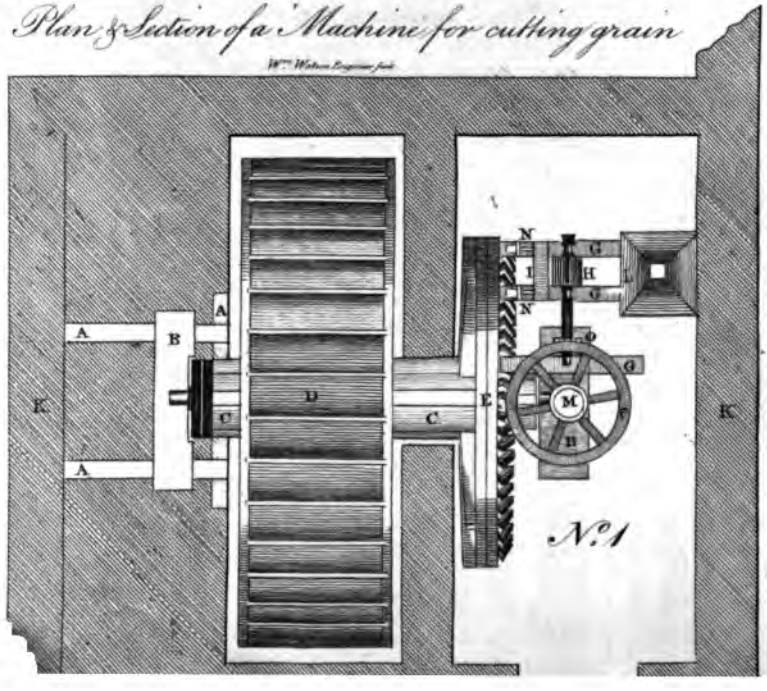
LEWIS GORDON, Dep. Sec.

D. Willison, Printer, Edinburgh.]



Plan & Section of a Machine for cutting grain

Wm. Watson Engineer fecit



Description *of* Plate *fronting* No. XXXIV. *Far. Mag.*

The uppermost View is a Section; the other a Ground Plan.

A A A, Framing under water wheel shaft.
B B, Bolster for water wheel shaft.
C C, Water wheel shaft.
D D, Water wheel.
E E, Pit wheel, to communicate motion to thrashing mill and cutting machine.
F F, Wheel to drive cutting machine.
G G G, Frame on which cutting cylinder runs.
H, Cylinder.
I, Breast on which cylinder acts.
N N, Two screws to adjust breast to cylinder.
O, Pinion under wheel F.
K, Refers to walls of the house.
L, Hopper to convey grain to cylinder.

Same Letters refer to Plan and Section.

Wm. Watson, Engineer, *Fecit.*

THE FARMER'S MAGAZINE:

JUNE 1808.

(No. XXXIV.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Description of a Machine for Cutting or Breaking Grain, lately erected by Mr Wight at Fillyside, near Edinburgh. With a Plate.

SIR, *Edinburgh, 18th March* 1808.

AT Mr Wight's at Fillyside, near Leith, Mr William Watson, engineer, Bonington, has erected a machine for cutting grain for feeding horses, which gives Mr Wight much satisfaction. It is driven off the perpendicular shaft which communicates motion to his thrashing-machine. The machine is impelled by a five-horse power, and will drive both the cutting and thrashing-machine at the same time, or separately, as occasion requires, or as water may be scarce or plentiful. Mr Watson can vouch, that this machine will cut five bolls of oats, wheat or barley, and seven bolls of peas or beans, in the hour. Wheat that had been damaged on shipboard, and kiln-dried, was the grain I saw the machine cut; the greater part of which was reduced into a mealy state, and the rest into very small pieces, in passing once through the machine. The cylinder and breast are both of malleable iron, case-hardened. The breast is fixed, and is nine inches in length, and four and a half inches in breadth, by one inch in thickness; being fluted longitudinally, and concave on the side presented to the cylinder. The cylinder is nine inches long, and five and a half in diameter, fluted in the longitudinal direction. The flutes are parallel, having about one-eighth of an inch pitch: they amount to 138. The cylinder

performs about 380 revolutions in the minute. The cylinder and breast are both placed horizontally; the grain being cut in passing between the sharpened edges of the flutes of the cylinder and those of the breast. The flutes are sharpened with a file; and, when this is done, the operation will cost about 15*s.*; but, unless glass, stones, iron, or something of the hardest sort, is put through the machine, the operation of sharpening will not be required once in cutting the corn necessary to feed the horses, say ten, on a moderate sized farm, in the course of three years. There is a wooden box, or shoe, for conveying the grain, suspended, in an inclining direction, from the hopper L to the breast I, and dropping the grain betwixt the cylinder H and the breast I; which box, or shoe, is not delineated in the ground plan, as it would have obscured the cylinder, and rendered that part of the drawing indistinct. Total expense of materials and erection, 15*l.* Sterling—scale one third of an inch to a foot. From the accompanying drawing and references, with the preceding description, I trust the nature of the machine, and mode of its operation, will be readily comprehended. I am, &c. JOHN SHIRREFF.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Authorized Improvements on the Duke of Buccleuch's Estates in the Southern Districts of Scotland.

SIR,

AMONG the numerous communications presented by your correspondents, I have often wondered that the conduct of the Duke of Buccleuch towards his tenantry in the counties of Dumfries, Roxburgh and Selkirk, has never been mentioned. It surely merits attention, as an instance of enlightened and generous policy, tending much to form the character, and increase the comfort, of a numerous and highly respectable class of men. It might also, I think, serve to the diffusion of useful knowledge in various branches of rural economy; and, whilst it gave a tribute of praise that is justly due to the noble proprietor, who has shown himself the father of his tenantry, the public would learn, that these tenants have not abused his goodness, but have been as ready to carry his plans of improvement into effect, as he was to propose them.

Allow me, then, to undertake the task, and to describe, in the present paper, the important improvements of *surface-draining on sheep farms*, and *mole-catching*.

First, Of *surface-draining*.—About forty years ago, it was not unusual for sheep-farmers to draw a few surface-drains on some of

of the wet portions of their land; but it is only within these eighteen or twenty years that the practice has become general; and within a later period still, that it was completely understood. These surface-drains are, in general, from 24 to 30 inches wide at the top; from 8 to 12 inches at the bottom; and from 12 to 15 or 18 inches deep: but the degree of depth depends much on the hardness or softness of the ground. They are commonly laid in such a sloping direction along the sides of the hills, that the water which runs shall neither have such velocity as to run them into gullies, nor move so sluggishly as to sand them up, and overflow the pasture beneath. It is impossible to say exactly, at what distance from each other the drains should be; for this is guided by the depth of the drain, and the nature of the ground; but, in general, they are from 25 to 35 or 40 yards: so that the drained portion of a hillside or bog, appears to the traveller to be divided into gently sloping parallel lines, which either empty themselves into each other, if the quantity of water be trifling, or, as more generally happens, into the neighbouring rivulets or burns. With respect to their length, this is also determined by the surface and extent of the ground; but they are generally wished to be from half a mile to three fourths: it being found from experience, that when little water is collected, they are more apt to fill up, and grow together. A considerable degree of genius is therefore required to plan them properly; and it is of more consequence to a farmer than may at first sight appear, to procure a person who is master of this business; the expense of draining being considerable. Much pasture is lost by laying them injudiciously; and it adds to the vexation, when they are either so up hill as to retain the water, or so exceedingly down hill as either to collect none, or to carry it off too rapidly. I have seen much ground spoiled, and much money thrown away, by employing an unskilful drainer.

In the operation of cutting surface-drains, several tools are requisite. The following are those commonly in use. 1*st*, A *reel*, like a gardener's, with a line of a certain number of roods, to mark out the direction of the drain. 2*d*, A *rutting spade*, 18 inches deep, by 12 inches wide, in the form of a triangle, rounded at the point, which is kept very sharp by means of a piece of freestone, about 20 inches long, and 6 or 8 inches broad, that the operator carries along with him. If near a rivulet, he can easily get water to sharp with; but should he happen to be on benty or mossy ground, the defect may be supplied by cutting a small square hole in the ground, that soon fills, from the wetness of the adjoining parts. The 3*d* implement used, is a *raising spade*, 18 or 20 inches wide, by 18 inches deep, also in the form of a tri-

angle, but rather sharper at the point than the rutting spade. The *4th* is a *hack*, similar to those that are used for pulling dung from carts, only narrower and shorter in the prongs, and with a shorter handle. The *5th* and last is a *cleaning spade*, 6 or 8 inches broad, by as many deep, which is used in finishing off the drains. Many make use of a garden shovel, considerably bent, for this last purpose. To these I might add, although not essential to the business, a pair of shoes with wooden soles, provincially called clogs, and a pair of strong leather *leggums*, to keep the legs and feet dry, when working in wet soils. These are the tools commonly used; and I shall now describe the common way of making surface-drains. The drainer first considers attentively the nature of the ground, and how the drains may be laid to the best advantage. If he can make them run *up* the water, and empty themselves *against* the current of the burns, he prefers it; in other words, if the rivulets run south, he wishes his drains to run northerly, and so of any other direction. Having settled this point to his mind, he next fixes the pin of his line in the earth, retires backwards with the reel in his hand till the whole is unrolled, considers the proper declivity that the drain should have, and then fixes it down. After this he takes his rutting spade, and cuts along the line, so as to form one side of the drain; then changes the line to the other side, and cuts that likewise. Having marked both sides, his next work is to cut the sods across with the raising spade, and of a proper length, so as to be easily drawn out with the hack, and laid on the under side of the drain. But this does not commonly bring the drain to the proper depth: he has therefore to employ the rutting spade a second time, and after that the cleaning spade, to deepen it a little, and remove any clods or inequalities at the bottom. Accordingly, the bottom of the drain is generally a little more than the width of the cleaning spade, which is pushed rapidly along, by being pressed against the inside of the knee. An experienced hand can do, in this way, from 40 to 50 roods of 18 feet each, per day, at one penny per rood.

The soils most improved by surface-draining are the following. *1st*, Clay and moss bogs, the last of which becomes more compressed; and both of them being deprived of their superfluous moisture, afford, for ten yards or so below the drain, a thick stool of sweet rich grass, which the sheep eat in harvest and the beginning of winter; while the remaining twenty or thirty yards, between that and the next drain, afford a strong coarse grass, which stands the frost, and is eaten by them in winter and spring. *2dly*, Benty ground, which generally lies at the head of clay and moss bogs, is also greatly improved by surface-draining; for the

fleec

fleet water being carried off, the pasture, as may naturally be supposed, is much sweetened; and, what is of immense advantage on such soils, the sheep obtain a dry bed in wet and stormy weather. I confine it to the times when the weather is unfavourable; for when it is good, they commonly betake themselves in the evening, as every traveller must have observed, to the tops of the mountains. The *last* kind of soil which is improved by surface-draining is that known by the name of Flow-moss; which is often so wet, when in a state of nature, as to prevent sheep from entering on it at all; but which, by being drained, becomes exceedingly useful to the sheep-farmer. It allows his flocks to spread themselves easily and equally over the grounds, and increases often, in a considerable degree, their quantity of spring food. Perhaps it may sound odd to some of your readers, to be told, that the sheep on Highland farms get their chief subsistence, during the whole of March and beginning of April, from under ground. Yet it is nevertheless true; for they then subsist chiefly on the long, white, sweet roots of the ling, which they draw from the flows with great assiduity. I ought to remark, however, that although the flow-moss be much improved by draining, it is not looked upon as advantageous to make it very dry. It is considered sufficient to remove so much of the moisture as to give the sheep an easy and safe access to it.

Such, Sir, is the nature of that surface draining, on sheep farms, which began, I believe, upon the Duke of Buccleuch's estate; which has uniformly received his marked approbation, many even obtaining from him considerable sums to carry it into effect; and which has been copied successfully by neighbouring proprietors. Yet, I am afraid that, after all, it is not so generally practised as it ought to be; for, about nine years ago, when a person from this parish, who had taken a farm in Annandale, only about eighteen miles distant, began to drain, the neighbours around came to look at it as a curiosity, and several of them considered it as a spoiling of ground. Nay, a friend, who returned but the other day from Galloway, told me, that he saw, in his route, only one farm that was surface-drained.

Having said so much concerning the making of drains, it is proper that I should say something about repairing them. This is found needful after a longer or shorter time, according to the nature of the soil; for the soft, spungy ground, when dried, naturally presses downwards and outwards: but they are easily repaired by cutting a slice from either side, and cleaning out the bottom. This operation costs 5s. the hundred roods; and when they are once repaired, they commonly stand for many years. At present, from particular inquiry, the author of this paper is

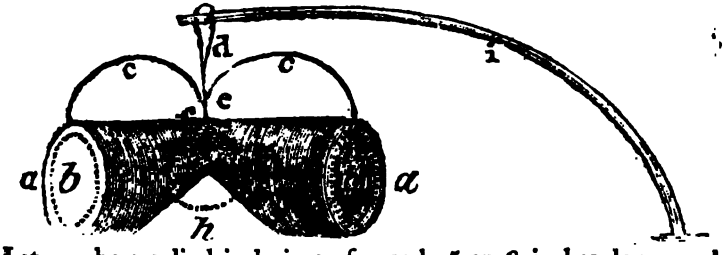
able to state, that the number of roods of surface-drains, in the parish where he resides, are no fewer than *two hundred and twenty-one thousand seven hundred and twenty*, or near four millions of feet. Your readers, therefore, may guess at the whole number on the Duke's estate, in the counties of Dumfries, Roxburgh and Selkirk. But let us now attend to the

Second improvement I mentioned, or that of *mole-catching*; for though surface-draining was exceedingly advantageous on sheep-farms for a few years, it was found to be defeated, in some measure, by the vast number of moles which everywhere riddled the ground. Indeed, the draining seemed to increase both their number and activity; for, by their working into the drains, in dry weather, the water got out, dispersed the new mould cast out of the drains, made it a top-dressing to the soil, and produced a rich soft grass, which, when eaten in autumn, was considered as one of the causes of rot in sheep. In order, therefore, to obtain all the good from surface-draining that it was fitted to give, the apparently endless task of mole-catching became necessary. This, however, was got over by the wisdom and benevolence of the proprietor; for, knowing that men trained to the trade were employed in England for cleaning the low grounds of these destructive animals, it naturally occurred to him, that their exertions would be equally useful on his highland and arable farms. Accordingly, about eleven years ago, he entered into an agreement with Messrs Thompson and Fleming, from Westmoreland, to clear his whole grounds in the south of Scotland. The bargain with these gentlemen was as follows.—The term was fourteen years, during the first three of which, they were to have ten shillings the hundred acres for arable farms, and five shillings the other eleven; and for sheep-farms eight shillings and four pence the hundred acres the first three years, and four shillings and two pence the other eleven —the persons employed to be boarded with the farmers during the time they were on their grounds, at so much per week, payable by Messrs Thompson and Fleming. The reason of the difference of price, during the term of years, will be easily seen; the moles, at the end of three years, being naturally expected to become much fewer, and the persons employed in catching them also fewer in proportion. This was the bargain which the Duke made, and which, for reasons afterwards to be mentioned, he laid on the tenantry according to the rental of their respective farms. But it ought to be remarked, that those proprietors who wish now to bargain for mole-catching, cannot expect to have it on quite so easy terms; for the expense of labour and subsistence are greatly increased; and besides, it cannot be supposed, that men will take

five

five or ten thouſand acres, lying in ſeparate portions through the country, as low as between two and three hundred thouſand lying almoſt together. Yet I have no heſitation in ſaying, that they will find their account in trying the improvement, even at conſiderably advanced prices.

The implements which are needful in mole-catching are the following.—A mole-trap, a paddle, and a needle. Thoſe who have never ſeen a mole-trap, may perhaps underſtand it from the following deſcription.



Let *a a* be a cylindrical piece of wood, 5 or 6 inches long, and about 10 inches round, the heart of which is completely ſcooped out, to allow the mole to paſs through it with eaſe: *b b* are two grooves made in the inſide of the cylinder, about an inch from each end, repreſented by the dotted lines: *c c* two ſmall cords, which are faſtened at the one end to the outſide of the cylinder by a knot, run round the grooves, where they are covered over with wet earth when ſet, to prevent the mole from feeling them; and after they come out again from the cylinder are tied together at *d*: *e* is a ſhort cord tied along with them, and knotted at the lower end, *f*; where, when the trap is ſet, it is fixed in a hole in the upper part of the cylinder, by means of the peg *g*, repreſented by dotted lines, becauſe ſuppoſed to be partly within the cylinder: *h* is a large hole cut in the lower ſide of the cylinder, to allow the molecatcher to faſten this peg. Things being thus diſpoſed, he takes his paddle, or ſmall ſpade, which is commonly about 5 or 6 inches wide in the mouth, 3 inches deep, and has a handle like a common garden ſhovel; makes the hole where the trap is to be ſet; and after he has cleared out the rubbiſh, and opened its communication with the run on either end, he places the trap carefully in the line of run, fixes it down with two ſtrong wooden pins linked into each other, covers it over with turf, to prevent any light from entering, and then applies the ſpring *i*, which is commonly a ſtrong hazel branch about 4 feet long, fixed firmly into the ground on one end, and having the other inſerted into the loop, which joins all the cords of the trap together. Thus, when the trap is ſet, the whole force of

the spring is upon the short cord *e*, fastened by the peg *g*: but when the mole enters, and finds her way obstructed by the peg, she forces it out: this transfers the force of the spring from the short cord *e*, to the two long ones *b b*, draws them up close to the top of the cylinder, and thus suspends the mole either in the one cord or the other. The increased length of the cords informs the molecatcher of what has happened; he lifts the trap, removes the mole, takes his iron needle, which hangs at his side, to clean out the grooves on each end, covers the cords anew in them with wet earth, and sets the trap as before. In this way do they proceed for about 40 weeks every year, making their appearance on the estate generally about the 20th of August, and going away about the 28th of May next year. The common manner of mole-catchers going over the farms, is to begin with those which lye at the heads of the rivers, and to go downwards to the lower arable districts, as the winter approaches; there they remain during the winter months (except going home sometimes to see their friends in time of frost), and, as the weather becomes milder, they gradually reascend, till they finish on the pasture farms, at the heads of the rivers, where they began. The reason of their being engaged only from the 20th of August to the 28th of May following, will be easily understood by those of your readers who have attended to the natural history of the mole; for they commonly breed in the end of May and beginning of June, having 5 or 6, rarely 7, at a time; so that it must be the middle of August, or the usual time of the molecatchers' return, before the young ones can be able to throw up many molehills. Yet I would submit to the consideration of the gentlemen of the trade, whether they would not accomplish their purpose in a still shorter time, by leaving a few hands in the country, to open the breeding molehills, and kill the young ones before they left the nests. These molehills are easily known from the rest, by their being much larger. The plan I propose is not an ideal one; for an acquaintance lately tried the experiment, by taking a spade with him to the hill, when he went to look after the sheep, and killed about an hundred before he returned. Perhaps I should add, that moleskins bring a considerable profit to the molecatchers, especially during the first years of a lease; for they sell them in great numbers to the fur-merchants and hatters at 2d. per dozen.

I have been thus minute in the account of mole-catching, that those who have not seen it may be able to appreciate its utility. It certainly has, in connexion with surface-draining, been of immense advantage on the Duke of Buccleuch's estate. Yet it is easy to see that the full value thereof cannot be ascertained till the

the practice becomes general; for the lands that are cleared are often much infested by colonies from those which are not.

Should the present paper merit a place in your useful and widely circulated publication, there are other subjects of equal importance that at a future period may be laid before your readers. I am, &c. W. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Pickling Seed Wheat.

SIR,

THE utility of pickling wheat meant to be used for seed, and the benefit derived from that preparatory process, have been long and generally acknowledged by the great body of practical agriculturists in this island. At different times, individuals, chiefly of that class characterized as philosophical and chemical agriculturists, have appeared to doubt, and in some instances to deny, the utility of pickling; because they could not comprehend how, and in what way, that process prevented the crop from being smutted. To be sure, it is a difficult matter to explain the mode and manner in which pickle operates upon the seed plant, as, at the best, the operation can only be guessed at; and should these gentlemen remain sceptical till that secret is revealed, I apprehend they will long continue unbelievers. Were they to be satisfied with facts gathered in the school of experience, and, in some instances, purchased at a high price, their doubts, however, might soon be removed. One fact with a practical agriculturist has more weight than an hundred reasons. It is by the effects that follow the use of lime and dung that the virtue of these articles can be sufficiently ascertained; and it is by the effects of pickling, and the unhappy consequences which daily follow the neglect of it, that we are enabled to ascertain the utility of that process, fully as well as if the curtain of nature were withdrawn, and the *modus operandi* completely disclosed.

I am led to make these remarks from perusing an essay in Dr Dickson's Agricultural Magazine for November last, which contains a harmless attack upon one of your correspondents, with some small wit against those who support the pickling system. Dr Dickson I consider as a sensible man, and possessing a larger stock of prudence than to make a direct attack upon your work; though, on the other hand, he does not seem to feel any objection, when galloping past your door, to fire a pistol through the window. In the essay alluded to, either Dr Dickson, or some person for him, notices what is mentioned in the Young Farmer's letters with

with regard to pickling and smut, and characterizes the opinions given as originating in a prejudice which seems as yet incurable in the north, and accompanied with a laughable degree of passion. I know you will smile at such a passage, and probably feel too much contempt for its author to take further notice of him. Though this may be the right method of treating the author, I am not sure whether it is the best way of supporting the practice animadverted upon; therefore, with your permission, beg leave to offer some considerations in defence of the pickling process, and to describe the consequences attending the neglect of pickling, in some instances which have come particularly under my personal observation.

In my early years, when farming was not more familiar to me than it is to Dr Dickson or his correspondent, I had contracted opinions something very near akin to those entertained by these gentlemen, and, like them, was in the habit of laughing at the folly of my neighbours who took the trouble of pickling their wheat. I used to characterize pickling as a branch of the quack system, and with great confidence inquire at those who differed with me, how a drop of urine or water mixed with salt could be capable of preventing wheat from being smutted. Fully satisfied with the correctness of my principles, I acted accordingly, and persisted in their rectitude, till I had not a sound field of wheat upon my farm. The result served to open my eyes, though you may be satisfied that I paid dearly for the operation. I then imitated the practice of those whom I had formerly considered as less enlightened, and can with confidence maintain, that, since I regularly used stale urine as a pickle, and saturated the wet grain with hot lime, I have rarely ever found a smutted head of wheat in any one of my fields. This system I have sedulously followed for twenty-five years, and in that period have sowed wheat to an extent not much exceeded by any farmer in the island.

Having stated what happened in my own case, I shall briefly detail what occurred upon a farm in my neighbourhood, which I had occasion to find out when employed upon the premises as an arbiter. The outgoing tenant, who probably was one of Dr Dickson's disciples, had sown the whole of his wheat fields with dry seed. The farm was afterwards set to another tenant, who, to procure immediate entry, agreed to pay for labour, manure, &c. &c.; and the amount of these articles was left to be settled by arbiters mutually chosen. It fell to my lot to be one of these arbiters; and the business was soon despatched. Before harvest, it was discovered that every field was less or more smutted; and though the old tenant, strictly speaking, was not liable on that account, it was judged proper to examine the fields, and ascertain

ascertain the extent of the damage. This the arbiters did in the only way in which it could be ascertained. They employed a careful person to walk across every field, and to cut a handful every six ridges, which, when brought out, was examined by them, and the number of sound and diseased heads were carefully marked. The result was, that upon no field the number of smutted heads was less than ten in the hundred; upon some of them forty and fifty; and in one not fewer than seventy. Taking an average of the whole, the loss exceeded one third of the crop, laying no stress upon the injury done by the smut to the grain that was otherwise sound. This is a correct state of that unfortunate business; and having given it, permit me to offer one or two passing observations.

In the first place, when the loss from smut is so great, why will a single agriculturist be so fool-hardy as to run any risk, seeing it may be completely avoided by pickling the grain that is used for seed? I by no means question, that sound grain will not be procured from unpickled seed, under certain circumstances. Wheat does not smut in a single season, no more than potatoes procreated from sound seed become curled when planted a second time. Wheat completely pickled in one year, probably will not be smutted in the second year, at least to no more than an inconsiderable degree; but, persist with using the same seed in a dry state, and the consequences are certain and fatal. But why run the smallest risk? Pickling can be completely executed at sixpence per acre; and does this trifling expense (laying no stress upon the disgrace) bear any affinity to the loss which arises from a smutted crop? Certainly not. The premium is but a trifle when compared with the immensity of the benefit.

In the second place, I am at a loss in what light an agricultural publication should be considered, wherein the useful and necessary process I am speaking of, is treated with disregard, nay, rather with contempt. The only favourable excuses that can be urged are, that its author is ignorant of the practice of husbandry; that he is not competent to judge of the merits of the most useful practice which husbandmen execute; and that he is rather to be sympathized with than blamed for occupying a station difficult to be filled by any one unacquainted with practical husbandry. I admit the force of these excuses; and, knowing that you would not willingly allow me to extend my remarks upon a hostile publication to a greater length, I beg leave to add, that I am, at all times, your friend and servant,

ARATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Rural Embellishment.

SIR,

THOUGH the leading feature of your Magazine be utility, yet I cannot but suppose that a number of your readers would occasionally desire some entertainment from a few speculations on elegance. The subject, indeed, is closely connected with utility. A farmer or tradesman is no sooner easy in his circumstances, than he wishes to make this evident to his neighbours; not content with being happy within himself, he would be thought so by others. Luxury is the means of accomplishing this purpose; and the moment we have recourse to luxury, of whatever degree, we overstep the bounds of necessity, and invade the province of taste and elegance. The limits of this province vary, no doubt, with the changing face of society; but they do not therefore cease to exist, though difficult to be defined with accuracy. Of its various districts, rural embellishment is perhaps the most interesting and rational, because the most intimately connected with the products of the soil, which are not only the source of life itself, but of all that is convenient or elegant among mankind. It is on this subject that I propose to offer a few remarks.

It is essential to rural embellishment that it be removed from vulgarity. This is its only unvarying principle, as it is the only permanent source of pleasure to the opulent. In rude and barbarous times, a chief, when he could rear a thatched hut to protect his family from the inclemency of the weather, and enclose a few fields around it to protect sheep, cattle and grain, would feel himself vastly superior to the straggling herd of savages who took shelter in the woods, and prolonged their existence from those (then vulgar) animals, the deer, the hare, and the boar. Some ages afterwards, when the vulgar had so far imitated the great as to cultivate, enclose, and live in houses, those of the great would, of course, receive enlargements, so as to become distinguished by magnitude or style; and as the general face of the country became covered with enclosures, the fences and roads of the nobles would be changed into high walls, avenues, and straight rows of tall trees, that they might be different from the crooked hedge and ditch of the farmer. Gardens would now become conspicuous; and that they might be duly distinguished, both from nature and vulgarity, would be disposed in the most artificial manner: all forms would either be geometrical, or contrived to display an excess of art, of which circular basons of water,

water, and shrubs cut into regular or imitative shapes, are examples.

But as the advantage in some cases, and in others the grandeur of square enclosures, strips and avenues, would soon render them common among the farmers and the lower classes of landholders, men of taste, to be distinguished from their neighbours, would aspire to some new mode of disposing their residences. In place of avenues and roads geometrically straight, perceiving nature to abound in varied lines, they would imitate them, not as they are, but as they are seen with the eye of a geometrician; to whom waving lines are *regular serpentines*; or biculate shapes, *circles*; long strips, *parallelograms*, and so on. Hence serpentine canals, and belts, and walks, and round clumps of planting. There are various causes that have rendered this mode vulgar and disagreeable. In the first place, the affectation of natural ease in this studied display of supposed graceful forms, would disgust; and, in the next place, the conspicuousness of round isolated clumps, would render residences even more exactly alike than trees in avenues, strips and rows; which, besides disposing themselves better into large masses, have the further merit of never showing every part at one view, as in residences where the whole consists of a few round clumps, one serpentine walk, one serpentine river, and one serpentine belt enclosing the whole.

This mode of embellishment became vulgar for men of taste to have recourse to, in order to be supereminently* distinguished. The transition, though humiliating, is easy; from a formal affectation of improving nature to the simple imitation of her beauties. The excellence of this mode would the more easily be felt by men of elegant minds, from the view of those residences, where the force of natural character prevailed over artificial decorations; and of such places a number have always existed in romantic situations.† Some artists, or proprietors, in adopting this new taste, might imitate nature indiscriminately, or copy parts without considering their relation to a whole; but the more judicious would select the choicest beauties, imitate the finest circumstances, and would have, for their object, the production of that expression or character, which was most suitable to the situation, and to the proprietor.

These changes of taste are, in truth, a complete revolution; for those who now aspire at distinction among the distinguished, (if the phrase be allowable), can effect it only by having recourse to

* I say *supereminently*, because farmers are too wise to spot their fields with clumps. It is the *great vulgar* from whom the man of taste would wish to be distinguished.

† As Hafod, Heckfall, Dunkeld, Blair, &c.

to an open portion of surface varied by wood, something like original forests, containing wastes and pasture glades inhabited by deer and game; a house, either *low*, irregular, and in the cottage style, approaching to the primitive huts, or *high* towered embattlements and buttresses, &c. in the style of the middle ages. Any above the one, or below the other, is like a clergyman's *manse*, or the box of a retiring tradesman. With respect to Grecian architecture, which was in vogue a century ago, porticos and colonnades are common to every haberdasher, who has them either stuck at the door of his shop, or leaning against the post of his villa in the suburbs. History has been termed philosophy teaching by example. What, it may be asked, are we taught by it in this instance? To this it may be answered, that we are taught generally this permanent principle, that distinction, with intelligence, is the essence of elegance. But what, it is urged, are the comparative merits of these different styles? has the last of them, which has for its object the imitation of nature, no greater claim to our approbation than its novelty? On these questions, it may be observed, that each style, in its own time, was best; and that their real merits, as those of any work of art, consist in the *mind* or comprehension which they display; consequently, our knowledge of, and taste for nature, displays more mind than a taste for the puny works of our own hands.

It is proper to observe here, that, to superficial connoisseurs, whatever is most in fashion, will, independent of its intrinsic excellence, be invariably not only better than any thing in use, but better than any thing ever before known. Hence, to such critics, whatever has the charm of novelty will be in the best possible taste. Perhaps something of this kind will be imputed to me, were I to attempt to show the superior excellence of the last, or the approaching taste, in rural embellishment. I shall, however, venture a few remarks as the conclusion of this part of my subject.

First, I observe, that the cause of these revolutions was, in every case, the similarity of improved scenery. Individuals found that they were not enough distinguished; and the reason was, that whatever might be the natural character of the situation, a common character of art was conferred upon it. The grand desideratum was, a style of improvement which should render country seats completely different from each other. It is evident, that none can be better adapted for this purpose than a style, the leading principle of which is to heighten the natural character of the scenery, and accommodate it with every appendage of art to the mind and wants of the possessor. The result of such a style being carried into execution must be, to render country residen-

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ces as different from each other as are men—men not like automaton things, where nature, by our education and refinement, is cramped and confined, like the foot of a Chinese girl; but such whose education, like the style we have proposed for improving scenery, tends to unfold and heighten character—not a Cockney, but an Æmilius—not an Alderman, but a Highland *Laird.*

In the *next* place, I may remark, that the proof of the perfection of any art is its answering its end. The first styles never answered their end, because nature could not be overcome by art. Mountains could not be levelled, rivers made to run in straight courses, nor all trees to grow of tame, uniform shapes; which unquestionably would have highly pleased the admirers of the first style, as such trees do the taste of most kitchen-gardeners of the present day. The last, or approaching style, however, coincides with nature in every thing. The species of tree, and mode of planting, is indicated by the soil and surface; the character of the mansion by the character of the ambient scenery; its extent by the wealth of the proprietor. Utility directs, that the garden be in a sheltered situation, and the walks laid out where they will best afford a shelter and sun in winter, and shade and the breeze in the summer months, and good views at all seasons. When all this is done, there will be no part at variance with itself, no roads nor avenues stretching indiscriminately over hill and dale, no clumps perched on the tops of mountains whose sides are bare; no insipid composition of clumps, belts, and tame rivers; or avenues, alleys and canals, without mark or likelihood; but everywhere that new discrimination of character, that comprehensive display of elegance, which is the result of studying what will best mature the indications of nature.

Men can never admire what they do not understand. Hence, in rude ages, their chief pleasure was derived from their own simple and gross productions. It is not till mankind have become learned and refined, that they acquire a taste for understanding the more intricate and comprehensive works of nature. I do not mean to say, however, that when a taste for nature has become general, that no new change will afterwards take place. I know too well, that a further advance of art may consist of compositions formed on principles analogous to those of nature; or that artists (as in society, with respect to certain natural pleasures) may diverge into the monstrous or absurd; after which their progress is retrograde, till the arts are lost in their primitive rudeness. Such has been the progress and decline of the arts in Greece and Rome.

In my next, I shall be more immediately practical. I am, &c.

Wandhall, Middlesex, 18th Sept. 1807. J. L.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Strictures on the Letter from Aberdeenshire, Vol. VII. p. 422, concerning the evil Tendency of Ascertaining the Value of Land by the highest Offer.

SIR,

THE paper from Aberdeenshire, inserted in your Magazine of November 1806, 'On the evil Tendency of Ascertaining the Rent of Farms by the highest Offer,' involves, to be sure, no question of agricultural science, but certainly one of some practical utility. The subject lies within a narrow compass, and is not difficult to be discussed; but it is handled in a manner so objectionable, in my opinion, by your correspondent, that I shall take the liberty of making some remarks upon it.

He says, that 'it seems to be an opinion, gone into by the highest class of agriculturists, that the only sure way of ascertaining the *value*, or *rent*, of a farm, is from the different offers of those who mean to occupy and become tenants thereof.' In the present case, your correspondent seems to me to have fallen into a mistake, in supposing the value and rent of a farm to be the same identical thing. To my apprehension, rent has a reference to the interest which the landlord enjoys in the land; and value, on the other hand, to the more temporary connection which subsists between the tenant and the soil that he cultivates. Agriculturists do not fix upon this or that particular plan for ascertaining the real value of a farm they are about to let, but expressly for the purpose of obtaining the highest possible rent. It is the province, again, of the farmer, let his landlord ask as much as he pleases, to give no more than the value of the particular farm he has in view. The two parties are at issue; the one to get as much rent as he possibly can, the other to offer as little, and, at all events, not to give more than the value of the land.

'Prejudice,' says he, 'in favour of any opinion, which has once gained the ascendancy, is often capable to conceal, from very acute minds, reasons which appear to others of great moment.' Your correspondent has admitted, that they are of the highest class of agriculturists, and men of very acute minds too, who recommend the mode of ascertaining the rent of farms by the highest offer; yet he brands the opinions entertained by them with the epithet of prejudice. If those who favour this side of the question be so very distinguished, they must certainly be the least liable of any class of men to be carried away by that passion. Yet, without producing a single argument to reconcile a supposition

supposition so very improbable, he pronounces sentence of condemnation upon people of whom he had previously taught us to expect a very different character. It is very easy for him, or for any body, to say, that such a thing is all prejudice; but he ought to have gone a little further than his mere *ipse dixit;* and, instead of begging the question at the very outset, it was his duty to have pointed out the errors of those distinguished men, and left his readers to draw their own conclusions.

He goes on; 'In what follows, by way of stating the question, I contend for an original right,—which seems in some danger, as the times go, of being entirely lost; that is, when the parties are both pleased, a demand ought to be made for the farm; whether high or low, is out of the question.' When I began reading this sentence, I was afraid that the people of Scotland were upon the point of losing one of those political privileges which have been the means of raising it to its present pitch of grandeur and opulence; and I was hopeful that some of our representatives would be fortunate enough to meet with a passage so well calculated to awaken them to the preservation of the rights of the public. I was agreeably disappointed, however, upon finding that the original right, which is represented to be in so much danger of being lost, is of a very private nature, and one simply between landlord and tenant. Your correspondent takes it for granted, because convenient for his argument, that the tenant has the right of insisting upon the landlord making a demand of rent for a particular farm. I am not so fortunate as to be in the very enviable situation of a landlord, and, being of a very different profession from that of a tenant, may be presumed to be untainted with that foul disease under which, it seems, the best characters in the kingdom at present labour in an extraordinary degree. I may be supposed, upon this account, to be at least a dispassionate judge between two parties, whose object and whose interests are, in many respects, so very dissimilar. In this novel capacity, I have considered the supposed original right with all the attention in my power, and cannot discover its existence, much less its origin. I know that a landlord is proprietor of a certain quantity of land, and, in a free country, possesses the sole and uncontrouled management of it, either by letting it or not, to this or to that person, just as he pleases. In casting my eye over the privileges of the tenant, I can see no legal or other right that he enjoys of insisting upon the proprietor making a demand of rent for a particular farm he has set his affections upon. I do think that, if your correspondent had given the subject the smallest consideration, he would not have been guilty of saying that a landlord, who is under no obligation to let at all, should be under the ne-

cessity of following a particular regimen when he did come to let a farm.

But, supposing this original right of demand to be established, what good will it do your correspondent, or the class of people whose cause he has espoused, with more zeal certainly than wisdom? If the making of a demand of rent be all that is incumbent upon a landlord, he can easily humour C. B. without in the smallest degree committing himself, or bringing the other a whit nearer to his object. For example, if a landlord, in obedience to this supposed privilege upon the part of a tenant, asks 500*l.* a year for a farm which is not worth above 100*l.*, what the better is the latter of this boasted right? Fortunately for the landlord, all that is required of him by your correspondent is to make a demand, 'whether high or low is out of the question;' which is only making a great noise about nothing. If he intends being of use to the tenantry of this kingdom in a question with their landlords, he must employ more effectual means to accomplish his end.

In a private transaction between two people, it is very plain, that no business can be done unless the one or the other speaks out. While both remain dumb, it will be impossible to know how much the one expects for his commodity, and what the other may be disposed to give. In this state of perplexity, therefore, one of them must be under the necessity of breaking the ice; but which of them is under the obligation, I suspect will puzzle the greatest politicians of the day with certainty to determine. For my part, I am inclined to think, that the one or the other will speak first, according to circumstances. If the article to be sold is plentiful at the time, the seller will be happy enough to make the demand; and *vice versa*, the purchaser will be every way disposed to make an offer. These matters may very safely be left to the parties themselves; and instead of asserting that the one or the other is bound to make a demand, we may be assured, that the buyer and seller, the landlord and tenant, will very easily arrange their respective privileges, without making any appeal to the original right supposed to be vested in the latter.

Your correspondent seems to have in view only one mode of letting farms, that is, by private bargain, or agreement; but there is another way, by public roup, in which neither party may be said to make a demand nor an offer. A farm is set up at a particular sum, and the highest offerer bears off the prize. I wonder that this mode of letting did not occur to your correspondent, from the great anxiety he seems to entertain for the preservation of what he calls the original rights and privileges of the tants.

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It is said by your correspondent, under the first head of discourse, that 'when the country was in a state of nature, and improvements only begun, or beginning, a tenant possessed of sufficient stock, if he got the length of lease that pleased, needed not differ much as to the rent, because he was certain, that, although too dear for the present, his improvements and advance of money would soon make it a good bargain.' This is wholly an assumption; for how, in the name of wonder, could he have known what passed in the minds of farmers in the infancy of agriculture several centuries ago? It is said, that some of our countrymen have the faculty of seeing beforehand what to common eyes is enveloped in the mists of futurity; but this gentleman can, with the utmost ease, transport himself into an age almost out of the reach of history, and predicate the views of people to whom tradition itself scarcely extends.

It is totally impossible for a tenant to prosper without capital, and that professional knowledge by which alone he can execute improvements to advantage. At the time, however, to which your correspondent alludes, there must have been very little money in the pockets of agricultural people, and farming itself must have been at a very low ebb. The farmers, however, of these days, are represented by your correspondent to have been so very sanguine, as to entertain not the smallest doubt of making their fortunes, although their farms might have been too dear at the time they were taken. Now, this is reasoning against all probability; for if those people depended upon capital, and agricultural knowledge for making their fortunes, they trusted to two circumstances which, at the time your correspondent is talking of, could not possibly have an existence. Indeed, it is only of late, and in a very few favourable situations, that any thing of the semblance of improvement has begun to peep out, and show its face to the world.

Your correspondent observes, that farmers needed not to differ much about the rent, although high at the time. This, too, is a supposition totally in the face of all probability. We know well, that, in the early days of agriculture, rent could not in the nature of things be high; and history itself tells us, that at the period alluded to, it was exceedingly low. How indeed could people, not possessed even of capital sufficient to stock their farms, ever pay a high rent? This event can take place only when farmers come to be possessed of capital, and those other requisites which have of late years raised agriculture to the rank of a science.

But if the tenant of those distant ages was certain that, by means of his improvements and advance of money, the farm that

he had just rented would turn out a profitable concern, how much more sanguine in their future prospects ought those of the present day to be! If the trifling improvements of an ignorant and wretched people were to have the wonderful effects attributed to them by your correspondent, how much more so ought the extensive and well directed improvements of an enlightened and wealthy tenantry! That gentleman will not surely have the hardihood to deny the inference; and yet he most unaccountably asserts, that farmers are not now able to pay the high rents which landlords put upon the land.

I apprehend that the rent of a farm, the price indeed of every commodity, is, with reference to the different periods we may be talking of, always the same, although it may, and does vary in arithmetical figures. Taking into consideration the want of agricultural knowledge, capital, value of money, and all those other circumstances which affect to regulate the price of land, I am confident that the rent of a farm in the fourteenth century, though nominally lower, was substantially and really as high, as it is at present. Farmers are capable of giving but a certain rent, and no more; and, if we conceive the bow to be bent to the utmost, at two different periods, they can give no more than what the peculiar circumstances of the times can admit of their doing. At a period of agricultural debility, the farmer, let the matter be pushed as far as may be, can give not a farthing more than what he can afford to pay; and, in that of agricultural prosperity, his power of giving is limited by that very prosperity itself. With regard to the tenant, therefore, it is very evident that the *quantum* of rent, though nominally very different, is and must be always substantially the same. It is ridiculous, yet we hear it often said, that it was in former times only that tenants could make money; and that now, from the great rise in rents, it is scarcely possible for the most industrious to keep soul and body together. This, however, is nothing but the cant of ignorance, or weakly sentiment, which either does not know that all periods of the world are in this respect pretty much upon a par, or, from an incapability of enjoying the present, is perpetually dunning our ears with the joys of the past.

In a note, your correspondent says, 'Horses, cattle, sheep, swine, &c. raised upon a farm, find a level in a market, and have risen much in value.' The level of a market I understand to be, that price which is most ordinary and common; and this arises again from the quantity of the commodity and the demand being pretty nearly the same. It never refers to an article which has lost all proportion in either way between its quantity and the demand for it. It is evident, therefore, that this price, being the average

average or medium price, must always be below that of any particular commodity, which happens, from an extraordinary demand, to be very high. Now, the horses, cattle, sheep, &c. of your correspondent, from their having risen so much in value, instead of finding their level in the market, have in fact lost it, by going beyond its boundary. They were formerly on a level with grain; but, from a demand arising from peculiar circumstances, that proportion, which had formerly subsisted between them and all other commodities, came to be lost. Technically speaking, too, when an article is said to find its level, it must fall, and not rise.

Your correspondent says, 'Like the interest of money, it (meaning grain) is in some degree legally prohibited from going beyond a certain extent, and would be kept equally steady, if it were not for the very great difference which bad seasons make in the return of crops.' Was grain actually like money, it would not be merely in some degree, but totally and wholly prohibited from rising beyond a certain height. If money be like grain, on the other hand, the former would only, to a certain degree, be prevented from rising above 5 per cent.; but we know very well, that the laws of this country have made that part of a hundred the legal and invariable standard of interest. To say that the price of grain would be equally steady with the rate of interest, were it not for the great difference which bad seasons make in the return of crops, is just saying, that if the quantity of a thing, and the demand for it, be always the same, the price of it will also be the same. This is a truism of the first order; but does not apply more particularly to grain than to any other mercantile commodity in like circumstances. It appears to us, however, that grain must always be more equal and steady in its real price, than any other production of a farm. The cultivation of it is susceptible of the application in some measure of machinery; and for this reason, while horses and other articles, to which that improvement is not applicable, are perpetually upon the rise, the price of it remains, comparatively speaking, equable and steady. It must not be supposed, however, that a farmer is less a gainer by the cultivation of grain, than by the rearing and feeding of cattle. He may, to be sure, in the latter case, get a higher nominal price than he does in the other; but, when accurately examined, the two will, in that respect, bear an equal proportion. He sells the horse for a greater sum, because the animal cost him more at the market, and the rearing of him is attended with much greater expense. The grain he disposes of at a lower price; because, from the introduction of the thrashing machine, and other improvements in agriculture,

the cultivation of it costs him less than it was formerly in use to do. The difference between the selling price of the horse, and that of the grain, is exactly the difference of bringing the one and the other to market; and therefore, an equal sum of profit is pocketed in both cases.

'Suppose (says your correspondent in the same note) a farm comes into the market, of such quality and size as exactly suits three or four different candidates, all of whom are possessed of sufficient stock, knowledge and agricultural abilities,—every one of them equally capable to produce the greatest returns with the least expense,—will they all offer the same rent? Must not the successful candidate often exceed his own judgement, in order to obtain the possession, from the consideration that such a farm seldom comes into market?' Supposing, for the sake of argument, that all these different candidates are possessed of the essential requisites that have been mentioned, exactly in an equal degree, still it does not follow that, because one of them is succesful, he exceeds his own judgement in giving too high a rent for the farm. If that gentleman does, then he may possess capital, knowledge and agricultural abilities, but he wants what in the conduct of life is worth the whole of them put together. But, is the supposition here made, at all compatible with probability in the smallest degree, like the conduct of people whom he represents to be so very highly gifted with abilities? Is it at all likely that a number of farmers of capital, knowledge, &c. would be deficient in what comes first to a man's assistance upon his entrance into the world? To take such a thing for granted, is to outrage all probability, and to figure, combined in the same individuals, the most opposite and heterogeneous qualities.

But, besides this, it is very plain that a particular farm must, for certain reasons, be more valuable to one person out of a number; and that it is nonsense to say that it is worth just the same rent to half a dozen or more. No two men perhaps in the world were ever found alike; and, in a particular profession, there is always some peculiarity, which distinguishes one practitioner from another. One farmer may possess a certain number of requisites; a second others: but the one or the other will be found to be more adapted for a particular line of undertaking. They may be all men of ability, but, upon a nearer and more close inspection, it will be discovered that their talents have each a peculiar bias or turn. Upon a farm of a particular kind, one of them may be a loser; while the other, had he entered into possession of it, would have made his fortune. For these reasons, therefore, I apprehend that the likeness which your correspondent has

been

been pleased to draw of four different farmers, was merely to serve his present purpose in argument; and that, although one of a number may chuse to give a higher rent than has been offered by the rest, he is in no danger of being ruined by the business.

It by no means follows, of necessity, that the tenant who is preferred to a particular farm, from being the highest offerer, exceeds his better judgement in doing so. Were that the case, the present possessors of farms must be on the high road to ruin. In so doing, he must be a big fool, for he is not under the smallest obligation to give more than what he really considers to be the value of the land. If the landlord be to blame in not making a demand, the tenant is no less culpable in giving an offer. To check this bad practice among landlords, all that a tenant has to do, is to lye-by. By offering, the landlord is confirmed in habits which are represented to be so very ruinous, but which he would have to abandon altogether, were it not for the folly of the tenants themselves.

If the judgement of a farmer can be set aside to make way for necessity; if, being out of place, he must get in at all adventures; if he extends his offer so as to secure the farm, whatever may be the consequences, (I make use of your correspondent's own words), I am much afraid that most of farmers are downright idiots. I have heard, however, that they are not so, and am inclined to think that the picture which this gentleman has drawn, if it be like, is of a few solitary exceptions, rather than of the profession in general. Their folly must indeed be beyond all bounds, if your correspondent has spoken the truth; for what apology can there be for people committing such acts of madness and extravagance as those he has mentioned?

According to your correspondent, 'the very extraordinary difference there is betwixt the offerers for the same farm, points out the absurdity of determining rents in this way.' It is well known, that almost all the land in the kingdom is sold by public roup; and that very frequently, in the offers made, there is a wide difference. But, will your correspondent say, that this mode of selling land is for that reason improper to be followed, or that the letting of it is to be governed by rules different from those practised in a sale?

It is further said, that 'upon almost any article that can be mentioned, if a certain number of men, who are as much conversant in it, as any farmer must be upon his farm, are called to put a value, their verdict, if taken separately, will come nearly to the same amount. It might be expected that the same fair value would be offered by different offerers for the same farm; but that this is not the case, is very certain.' I do not know whether

the confusion of ideas is here intentional. It is obvious, however, that he is here talking of two different kinds of people, who, of course, are regulated by very different principles and modes of thinking. These two classes are valuators of farms, and competitors for them. If a person be employed to value a farm, or, as is the case here supposed, a number, it is natural to suppose, and it will turn out to be the fact, that the general opinion will pretty nearly coincide. Valuators have but one object in view, namely, to ascertain the value of a farm; and, if they be intelligent people, they cannot well go wrong; but competitors for a farm have a very different interest at heart. It is obviously of importance to them to get it upon as low terms as possible; and for that reason, they make their offers as near the ground as they can, with the prospect at the same time of getting the farm. From this mode of proceeding, it is natural to suppose, that there will be a great variety of offers; but, surely it affords no proof of these people either not knowing their business, or of its being an improper mode of letting land. Were these very people employed to put a value upon the farm under consideration, it is probable they would agree in the result, or nearly so; but, being all competitors for the same apple, it is the object of all to undervalue it; and hence the variety of offers.

I shall not pursue this subject any further, for I am only taking up the space of your Magazine. Every man, without exception, ought to be permitted the free use of his own property; and it is the very essence of tyranny to interfere in the smallest degree with the most sacred of all privileges. Upon this principle, every landlord is entitled to let his land in the way his inclination prompts him, even were that mode of management to have all the ruinous consequences attributed to it by your correspondent; and I am happy that my opinion is sanctioned by the practice of the most intelligent agriculturists of the present day.—I am

A Constant Reader.

NOTE BY THE CONDUCTOR.

Considering the above ſtrictures to be unfriendly to improvement, and as tending to ſupport a ſyſtem which ultimately will beggar the tenantry, we cannot ſuffer them to go before our readers, without being accompanied with a few obſervations. In offering the following remarks, the Conductor does not mean to advocate the cauſe either of landlord or tenant, but ſimply to inveſtigate the abſtract queſtion in ſo far as agricultural improvement is therewith connected.

In the *firſt* place, The Conductor ſubſcribes, without reſerve, to the doctrine maintained by his Aberdeenſhire correſpondent reſpecting

ſpecting what that gentleman is pleaſed to call the original right of the tenant to have an offer or demand from the landlord before he opens his mouth upon the ſubject to be treated of. The propriety of this rule is ſupported by the eſtabliſhed practice of every other trade; and a departure from it in any caſe, is evidently calculated to enrich the ſeller at the expenſe of the purchaſer. In every branch of trade, (that of ſetting land excepted), it is an invariable rule, that the ſeller ſhall ſtate his price, which price the buyer either agrees to give, or endeavours to bid the ſeller down, according to the opinion entertained of the market value of the article. All this is fair and open conduct; and gives no advantage to either ſide, unleſs what flows from ſuperior knowledge or greater abilities. But the caſe is very different when land is to be diſpoſed of for a limited period. According to the ſyſtem ſupported by 'a Conſtant Reader,' the ſeller cannot be committed for a moment, till the tranſaction is finally concluded. He ſtands aloof and allows his commodity to be valued by others, without troubling himſelf whether their judgment be ſound or otherwiſe. He pockets the opinions of all; and ſtands upon ground which allows him to influence the mind of each, and to work upon their paſſions in ſuch a way as may eminently ſerve his own private intereſt. In a word, to receive private offers for land, and to ſet it according to the higheſt of theſe offers, may be of advantage to the landlord, but muſt in the ſame degree be injurious to the tenant, from whom the laſt farthing may be ſqueezed, by ſteadily adhering to the ſyſtem animadverted upon.

2dly, Another evil arises from setting land to the highest offerer, which every liberal minded landlord will regard as of importance. Where this practice is strictly adhered to, it rarely happens, that the old tenant can obtain a renewal of his lease, because other offerers bid upon his judgement. Notwithstanding that offers are always kept secret, it somehow or other happens, that they are generally less or more known before a bargain is concluded, which affords opportunity of bidding at the post, and for sanguine people to exceed their original offers. An old tenant is apt to be cautious. He knows, from experience, what the farm can produce, and will not advance his offer, merely because a novice, or some other person who knows no more of the land for which he is offering, than what was gained in walking once or twice over it, has been pleased to outbid him. On this account, private offers must be regarded as unfriendly to agriculture. In fact, the system is calculated to exclude men of judgement and experience from possessing land, and to throw it altogether into the hands of rash adventurers.

3dly, The setting of land by private offers is not of ancient date,

date, and would not have been gone into by the tenantry, had not the candidates for farms become more numerous than the farms that were to be disposed of. This disproportion betwixt candidates and farms, gave an advantage to landlords, and necessarily served to raise the rate of rent; but, viewed in this light, the advantage was a fair one, and no more than what is enjoyed in every market by the seller, when the quantity of the commodity to be sold is below the wants of the purchasers. To increase the advantage above this extent, the system of receiving private offers was resorted to; and it is against this artificial mean of raising rent that we are contending. Let us put a parallel case, and leave the inference to others. Suppose that farmers, seven or eight years ago, when grain was very scarce, and prices uncommonly high, had refused to fix a price upon grain, and determined to sell only to those who made them written proposals. No doubt, in this way, an article, already high priced, might have been raised still higher; but, would the conduct of such persons have been considered as laudable and praiseworthy? Certainly not; and yet it might have been defended by arguments drawn from almost every page of the paper we are now commenting upon.

4thly, The author seems to think that the tenant would not be benefited by the first word coming from the landlord, because the latter might make an unreasonable demand. We grant that he might,—though unwilling to suppose that any landlord would adopt such preposterous conduct. Does the seller of corn or cattle who demands a ridiculous price for his commodity, obtain more than the seller who seeks a price something like the fair market value? No, he never does. Such are laughed at in the first instance, and ultimately sell for less money than their more prudent neighbours. The landlord who imitated their conduct, would not fare one whit better.

But, why libel the landowners by supposing that any one of them would adopt a practice calculated exactly for the meridian of fishwives? Is it not more probable, certainly more creditable to suppose, that those unacquainted with the value of land, would call for the aid of a skilful surveyor, and, from his report, form an opinion concerning the worth of the article they were going to offer in the market? By a plan of this kind, the right of the landlord to chuse his own tenant would rather be strengthened than impugned. He may set his land to whom he pleases, much more effectually, and upon sounder principles, than can be done under the system of receiving private offers.

5thly, 'Who bids more,' may be a good enough way to ascertain the value of an article at the time, or even for fixing the rent

rent of a grass park, which is only to remain with the farmer for a season; but we doubt if it can be depended upon as a sure criterion for determining the value of land for 19 or 21 years, the ordinary period of Scottish leases. To value land is at all times a difficult and abstruse business, because many circumstances must be taken into consideration, besides the quality of the soil under view. A surveyor of sense and experience may come pretty near the worth of land at the time; but no man can speak to its after worth, because that depends entirely upon contingencies which cannot be calculated upon. Our author, however, seems to believe, that the value of an acre of land may be estimated as exactly as that of a guinea; otherwise, why does he maintain that the man is a fool who takes land above its value! Now, the precise value of land cannot be ascertained, because it depends altogether upon the value of produce, which is incessantly varying. For a dozen of years back, offerers have trusted a good deal to what is called the growing prosperity of the country, and they have not been disappointed; but, if the country should not continue to increase in prosperity, nay, if it should remain merely stationary, what is to become of those who have of late acted upon this principle? Much might be said on this head; but we forbear from urging it.

6*thly*, We are inclined to believe, that the reasons stated by our Aberdeenshire correspondent, as influencing offerers for land to differ so widely in their respective estimates, are cogent and well-founded. We have seen them exemplified in numerous instances; and believe, that the reason why they have hitherto not proved fatal to those concerned is, that an advance of the value of produce has taken place, which, with some truth, may be considered as corresponding with that which land rent had previously experienced.

Lastly, It no doubt may appear foolish conduct for any person to offer a higher rent for a farm than he thinks it capable of paying; but every person of common observation knows it is done every day, though, from the circumstances already mentioned, the probable consequences at the time have been fortunately averted. It is very well for our correspondent to sit in his room, perhaps in his easy chair, with every comfort around him, and to say the rents offered for land cannot be too high; that the fellows are capable of paying them, otherwise they would not make such offers. But we beg him to reflect upon the actual situation of an offerer in numerous cases. He is out of a farm; the interest of his capital stock may not be sufficient to make him and his family live. He sees other people doing well, who offered, not only above their own judgment, but also above that of the whole country; and therefore, boldly determines to exceed the highest

offerer,

offerer, thinking that he stands a chance of experiencing the same good luck fortunately gained by others similarly circumstanced. This is the rule of conduct now adopted; and can scarcely be blamed, because it cannot be avoided. The farmer stands precisely in the situation which the purchaser of corn occupied in 1799 and 1800. With the like truth, the purchaser of oat-meal might then have been blamed for giving fivepence and sixpence per pound weight for an article which is not often above one third of these sums. Had the purchaser been blamed, he probably would have replied, that he could not starve; therefore, was obliged to buy it at the market price; and so must the farmer reply to the person who characterizes him as an idiot for taking land above its real worth. But the farmer has a better excuse to urge. He knows that the value of land has increased, is increasing, and *probably* will not be diminished: therefore, under the influence of the passion of *hope*,—a passion which influences mankind more than any other, he gives up his judgment, and concludes, 'that the value of any thing is just exactly what it will bring.' In many modern sets, it is evident that no other principle guided the taker; but, whether landed proprietors consult their permanent interest, by receiving private proposals for land from such people, is a question which we do not venture to determine. Assuredly, however, the interest of agriculture is thereby sacrificed, as may, at an after period, be completely exemplified. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Burning Stubble, &c.

SIR,

IT may perhaps admit of more difficulty than is generally supposed, how to decide properly the question, whether the ashes of a burnt vegetable, or the same vegetable reduced to a state of putrefaction, afford most nourishment to plants.

In the southern parts of China, two crops of corn are every summer taken from the same field; and we are informed by Sir George Staunton, that the stubble of the first crop is universally burnt as a manure for the second. In the interior of Africa, also, we are told, that the principal manure which a field, destined to be sown with corn, receives, is derived from what vegetable substances are burnt on the spot. And, in this country, we have often seen the wonderful effects of paring and burning the vegetable roots of the surface soil in promoting vegetation.

I am led to these remarks, from observing, in the Fourth Volume

lume of the Communications to the Board of Agriculture, a letter from Mr William Curtis of Lynn, Norfolk, wherein he says, he has tried several experiments, which show that the burning of stubble enriches greatly the fields for the ensuing crops, as well as renders them cleaner by destroying the weeds.

Another gentleman, in the same volume, Mr William Pontey of Huddersfield, ascribes the advantage of burning straw on fallows to the effect of heat. He thus describes a case that fell under his own observation.

'A neighbour of mine has a mill where he shells a considerable quantity of oats, the husks of which he was used to burn, and to spread the ashes upon his grass lands; but their effects were only observable for one season, and were by no means considerable; within the last ten years he has fallen into the practice of spreading the said husks upon his fallow when it is dry, to the depth of six or eight inches. To these he sets fire as soon as the wind is favourable; and though the quantity of ashes left be trifling, the article being very light, yet the soil is uniformly so enriched, that though no other tillage be applied, the burnt part is distinguishable from what was tilled with either lime or dung. To these effects, I have for several years been an attentive observer of the benefit for four following crops.' A. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Loose Hints respecting the Character and Conduct of Farmers Thirty or Forty Years ago.

SIR,

WILL ye allow a plain old fashioned country man to try his hand at a letter for your Magazine? Though not altogether unacquainted with books, (for I had always a turn for reading when books came in my way), yet I am very unskilful in composition, and know little or nothing about what, I believe, your learned folks call the 'collocation of words;' or the proper rendering of a period. Trusting, however, to you for a little brushing up where needful, I will proceed without further preface.

Observing frequent attempts in your work, to compare the state of agriculture and the manners of agriculturists in the present times with what they were thirty or forty years ago, I beg leave to send for your insertion, if deemed worthy of it, some rude hints on the same subject.

In my early days, Mr Conductor, there was more simplicity, more unostentatious hospitality, and a great deal more appearance of piety, than what is now to be seen among farmers. The change,

change, you will no doubt say, is the natural consequence of increased opulence, and more successful industry; and I am by no means disposed to dispute the point with you. Allow me at the same time to suggest, that the change, upon the whole, is unfavourable, and gives but too much reason to dread, that the real strength of the nation is upon the decline; and that it is therefore the duty of every person who has a spark of patriotism in his composition to try to check the growing evil. But I find I am rather digressing from my subject, and hope you will kindly excuse the occasional 'garrulities' of an old man. Forty years ago, almost every young farmer was as well skilled in the operative part of farming as any servant his father had. He went, for the most part, regularly to the plough; bore an active hand in sowing and dighting the corn, and in the labours of hay time and harvest. Not that his whole time was occupied in manual labour; for, if he had a turn for reading, his propensity might be freely indulged in the numerous avocations incident to the profession of a farmer; and, in general, I believe, it will be found that reading will be prosecuted to as great advantage in the intervals of moderate labour, as when it is made a more constant employment. Nor was the young farmer without his social intercourse and innocent recreations. Well do I remember with what buoyancy of spirits we used to enjoy our social meetings, and how the body, braced and invigorated by moderate toil, performed its functions so cheerily, that our days glided away in such peace and happiness as the idle and dissipated have no idea of. At that time, too, it would have been thought perfectly disgraceful to be habitually absent from church. The old farmers, in general, made a point of not only going regularly themselves, but taking their whole family with them, both forenoon and afternoon, and concluded the day of sacred rest by instructing their children and servants, and in devotional exercises. However, regard to truth forces one to acknowledge, that on market days, adherence to rigid temperance was more frequently forgotten than could have been wished. The truth is, that the beverage at that time most commonly drank when business was transacted, had a more intoxicating quality than the liquor now used; especially, as was often the case, when it was taken into an empty stomach, for the farmers in those days did not always dine in the market town. In this case, a glass or two of spirits and a bottle of ale, taken either separately, or mixed into 'poppin,' would sometimes fluster the old farmer, and send him home in a very talkative humour to his family. So much then for the character of a farmer forty years ago. It is but a rough sketch; but I have no inclination to occupy too much of your useful work, having little ability to do it to good purpose.

It

It would be a very invidious taſk to contraſt the character of the modern farmer with the above; and although there are ſtill a good number whoſe characters, in every reſpect, would not ſuffer in the compariſon, yet I am much afraid the generality would fall far, very far behind, in ſome of the points ſtated above. Let me therefore conclude with a word of advice to ſuch of them as are juſt ſtarting their farming career; and as what I have to ſay is the reſult of experience, I earneſtly beg their attention to it. Endeavour to think and act for yourſelf. Follow not the cuſtoms and habits of others, any further than reaſon and prudence approve. Cultivate a taſte for ſimple and unexpenſive pleaſures; and teſtify, by your behaviour, that you underſtand wherein the true dignity of man conſiſts.

If my ardour for ſcribbling is not damped by the rejection of this paper, I ſhall perhaps, at ſome future opportunity, ſend you another on the ſtate of huſbandry thirty or forty years ago in this county. I am, yours, &c.

East Lothian, January 2. 1808. RUSTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requested concerning the Process of Charring Peat.

SIR,

I SHALL be glad to be informed, through the medium of your Magazine, of the proceſs of charring peats, in order to uſe the aſhes for manure, as practiſed in ſeveral of the inland counties of England.

So far as my information goes, I am much inclined to think, that, in many parts of Scotland, where peat moſs of the proper quality prevails, the aſhes of peats might be obtained at a very ſmall expenſe, and that the application of them as manure would be attended with great effect.

If any of your correſpondents can favour me with a ſtatement of the expenſe of labour, and the quantity of peats which one hand can turn and burn in a ſeaſon, it may aſſiſt myſelf and others to form a tolerably correct eſtimate of the expenſe of a trial. I am, Sir, yours, &c.

Glaſgow, 1808. A. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Deſcription of a Feeding Byre in the County of Kent.

SIR,

IN your uſeful Magazine, vol. III. p. 8. and vol. V. p. 300., find accounts given of the Eſkmount and Roxburghſhire feeding byres;

byres; and as one, which, for the reaſons after mentione think preferable to either of them, has lately been erected at farm, Eltham, Kent, by a Cumberland farmer, who took a of that farm about ſeven years ago, I ſhall, for the inform and benefit of your numerous readers and of the public, er vour to deſcribe the ſeveral parts thereof in as conciſe and in gible a manner as I can.

The building is 113½ feet long, 30 feet wide, and 20 feet under the footing beam, having a floor raiſed ſeven feet abov cattle, by which means a barn is obtained above, as well as a below. The byre holds 64 cattle in two rows, their heads f each other, and between them is a gangway 4 feet 4 inches for the feeding man. At the heads of the cattle are cribs, a rack for hay; behind which is a ſoletree, with ſteps 2 10 inches high, which goes into a railing before the heads o cattle; and behind this is another railing, with boards nailed 10¼ inches wide at the top, and let into the ſoletree at the tom, ſloping into the gangway, which leaves 2 feet 7 inch the top of the racks for the gangway. There are ſix ventil on each ſide to let out the breath and heat of the cattle, and doors at each end of the building, viz. one at each end o gangway, and one at each end of the two grips, which de regularly from each end to the centre. Another gangway wide croſſes the middle of the byre, having a deſcent fron back of the building, which conveys all the urine of the into a reſervoir in the front, where the dung is depoſited. gangway interſects the grips and the middle gangway, an vides the byre into four equal parts, each holding ſixteen c A *to-fall* for calf-pens is built againſt the back part of the near the centre of it, with a door of communication, by v the calves may go to their dams. There are alſo *to-falls* er in the front of the building, one of which ſerves as a dwe houſe to the cowman, another is for holding a cart, a thi uſed as a milking place, and a fourth contains a boiler for he water, to ſcald milk veſſels, or for boiling any ſort of foo the cattle. There are alſo three convenient bed-rooms these *to-falls*. The building is on ſloping ground, the cart ing high on the outſide of the back wall, which enables the to come eaſily into the barn with the different ſorts of foo the cattle. The barn holds as much hay as will ſerve fo winter, exclusive of a room for grains, turnips, potatoes cabbages, which are carted into the barn, and let down b trap-doors into a little waggon with four wheels, which the man puſhes along the gangway, to feed the cattle on each s

The advantages derived from a barn and byre of this con

tion, are, 1. That one man can, with ease, feed the whole sixty-four cattle five times a day, turn them out, clean the house, take up the cattle again, and, besides, milk twelve cows twice a day, and suckle as many calves. 2. That the whole of the hay necessary for winter consumption, can be carted in small quantities as got ready, without being long exposed to injury from rain, and deposited in the barn, where neither the breath nor stench of the cattle can come to corrupt it; and lastly, that green food, for soiling cattle in summer, can be deposited there, without being exposed to the influence of the sun.

The plan of this building will therefore, I trust, be presented to the numerous readers of your useful Work, who will judge of the comparative utility of the different plans; and the writer will find himself particularly gratified, should any improvements be suggested. Yours truly,

January 29th, 1807. A KENTISH GRAZIER.

Note. Should a plan of the byre above described be sent us, we shall endeavour to have it engraven, and presented to our readers in a subsequent Number. If one man executes all the work mentioned, we must say that he is not an idle one.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on R r r's Diagram and Demonstration of the efficient Length of Lever of Horses, &c. *drawing in a Circular Walk by Swing-Trees.*

SIR,

IF the proverb 'Silence gives consent,' be founded in truth, we must, after a lapse of almost three years, suppose, that yourself and the numerous readers of your valuable Magazine, rest satisfied with R r r's diagram and demonstration of the efficient length of lever of horses, &c. drawing in a circular walk by swing-trees. Repeatedly schooled by R r r, your correspondent T—t became very complaisant, and ready to pin his mechanical faith to that gentleman's sleeve. He did right, however, in declining his bet of a rump and dozen on the terms on which it was offered; as, by the qualification '*general principle, not absolute quantum of loss by obliquity*,' R r r seems to propose something like what is commonly called *a bubble bet*; for, by the qualifying expression 'general principle,' &c. he is supposed to mean, merely that there is *some* loss of lever in drawing by swing-trees in a circle; a proposition so self-evident, that it may be considered a mechanical axiom. Had it, then, been submitted to the learned Pro-

feſſor of Natural Philoſophy of this or any other univerſity, it would probably have been anſwered by a ſmile, not expreſſive of the higheſt reſpect for the party who might have had the hardihood to lay '*the queſtion at iſſue*' before him.

As the fire produced by R r r's 'flint and ſteel,' is rather too much enveloped in ſmoke, to afford light to your readers to enable them to draw old Lady Truth out of the well, which, the ſong ſays, ſhe has choſen for a habitation, it is here intended to attempt the taſk, and to ſhow, that, whether *general* or particular, the principle on which R r r endeavours to demonſtrate the loſs of lever, is a falſe one; and that the quantum of loſs, inſtead of being *near* three feet, as is ſaid at page 195, vol. vi.;—or, as is ſaid at page 19, vol. v. *at leaſt* three feet,—is, in reality, under nine inches.

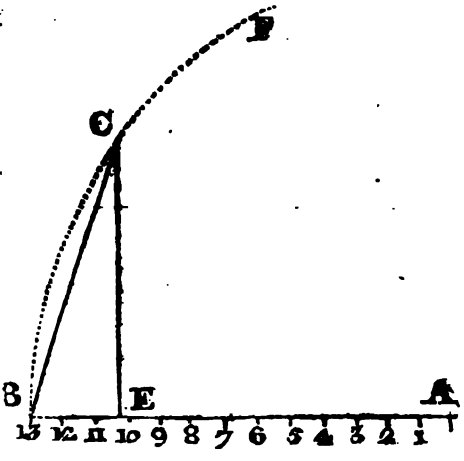

Fig. 1. R r r ſays, 'take A the centre of the horſe wheel, and A B as the entire efficient length of the ſtart or lever upon which the horſe acts, in traces faſtened to the loop or eye at B. The dotted arc B F is part of the circle in which the horſe draws. Suppoſe C to be the centre of the horſe's draught, or the point between his ſhoulders, and removed in conſequence of the length of the trace, ſwingle-trees, &c. 8½ feet from B, the point of the lever to which he is attached. Let fall the perpendicular C E from C, the point of actual draught, to E upon the lever, or ſtart. Now, I affirm (ſays he), the horſe drawing obliquely from B, in the line B C, exerts a power exactly equivalent to what he would poſſeſs if drawing directly perpendicular to A B in the line E C, which reduces the efficient length of the original lever A B to A E; and if we ſuppoſe A B 13 feet, B C 8½ feet, A E will be only a little more than ten feet;' which makes three feet nearly cut off, according to R r r, 'from the original lever A B;' whereas the real loſs of lever is under nine inches, viz. .72 of a foot.

Fig. 1. The perpendicular C E cannot exiſt; as the line A B is not the baſe of the plane of reſiſtance. By falſely aſſuming this perpendicular, R r r makes the reduced lever A E ten, or nearly ten, feet, which ought to be 12.28 feet.

Fig.

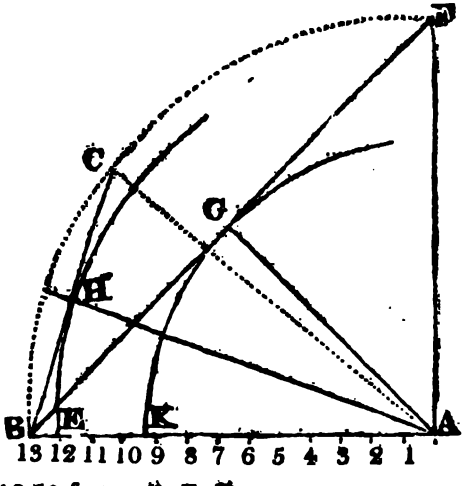

Fig. 2. B A C is the resisting plane, and A that angle where the resisting power is. According to the laws of mechanics, B C is the base of that plane, and by the same laws A H: a line at right angles to B C, the base of the plane of resistance, is *the lever which may be made to act against the resisting power at A.* If, through the point H an arc H E be made, with radius A H, the length of A E will be equal to that of A H, which is 12.28 feet. Q. E. D.

Let us suppose that R r r had extended his traces, so that the point of draught is at F in the line B F, then F A would be his perpendicular, and, *a priori*, there is *no* lever. But even at this point there will be a lever of 9.2 feet. Let fall the perpendicular A G, and with this radius make or describe the arc G K, and A K is equal to A G the length of the lever, which may be demonstrated as the preceding.

To calculate the Length of the Lever.

As A H B, Fig. 2. is a right-angled triangle, the square of the hypothenuse A B, minus the square of one of the sides B H, is equal to the square of the other side A H, the square root of which is the length of the lever; that is, from the square of the start A B, subtract the square of half the length of the traces, &c. B C the square root of the remainder, is the length of A H or A E the length of the lever.

Example.

A B 13 feet squared, is - 169.
The half of B C 8½, is 4.25; which, squared, is 18.0625

150.9375 (12.28 the lever.
1
22) 50
44
242) 693
484
2448) 20975
19584
1391, &c.

I am, your most obedient servant, JOHN SHIRREFF.

[The following Copy of a Lease, drawn up by a respectable Gentleman, has been obligingly communicated to us; and observations thereupon are respectfully requested from such of our Correspondents as may have made that useful and necessary mode of tenure their particular study. At a future period, we may, perhaps, offer some remarks upon several of the clauses of this lease; but, at present, shall content ourselves with observing, that the last one, viz. that all differences should be referred to arbitrators, is highly salutary, saving the tenant from vexatious litigation in law courts, often ruinous to his purse, and always distressing to him as a private individual.]

IT IS CONTRACTED AND AGREED on between on the one part, and on the other part, in manner following: That is to say,

The said in consideration of the rent and other obligations after mentioned, prestable by the tenant, has set, and hereby sets, and in tack and assedation lets to the said and his heirs, whether of line or by appointment, under the condition after mentioned, but always without division, and secluding assignees, whether legal or conventional, and subtenants of every description, All and Whole the

but with and under the following reservations and conditions, viz. Reserving to the proprietor power to search for, win, and work, all metals and minerals, in any part of the said lands, and to sell or apply the same to his use, and also to make roads requisite for such, or other purposes, he always paying to the tenant for any surface damage thereby done to the grounds, as the same shall be ascertained by two neutral men mutually chosen, and, failing such choice, in manner after mentioned; as also, reserving to the proprietor power to allocate such parts of the mosses in said farm as have been hitherto in use to be dug or cast for peats, and that to such of the other tenants or pendiclers on his estate as he shall think proper; and in case, during the currency of this lease, the said shall think proper to resume possession of the said mosses, for the purpose of improving or planting the same, then, and in that case, it shall be lawful for him so to do, upon granting to the tenant allowance out of his rent of the yearly value thereof, as the same shall be ascertained by men mutually chosen, and failing such choice and adjustment in manner after mentioned, it being always optional to the said to relinquish the said resumption, after valuation thereof, but before taking possession;

posse sion; Reserving also power to make such alterations on the marches between the said lands and those adjoining, as he shall judge proper; it being hereby provided, that the annual value of any ground thereby taken from or added to the farm, shall be fixed by men to be mutually chosen, and the same shall be deducted from, or added to, the rent accordingly: And reserving power, at any time during the first years of this lease, to make such subdivision and other fences as the proprietor shall judge proper, the tenant being always bound to pay, in addition to his rent, at the rate of 6 *per cent.* on the cost thereof, in manner herein after specified: And, further, reserving right, at any period during the currency of the lease, to assume possession of any part or parts of the lands hereby set, which the proprietor shall choose, for being planted with trees, providing that the ground so taken shall not exceed Scots acres; and that the tenant shall be entitled to a deduction from his rent, at such a rate for each acre planted, as shall be settled by neutral men to be mutually chosen, and failing such choice and adjustment, in manner after mentioned; the proprietor being bound to enclose, at his own expense, the lands planted, and the tenant being bound to take care of and pay one half of the cost of repairing the fences thereof afterwards, the said paying the other half, in so far as they do not constitute fences of the farm enclosures: Further reserving the liberty of cutting and carrying off all or any trees on the hedge, banks, or elsewhere; also, all game and fish in the premises, with the sole privilege of fishing, sporting, and hunting, by himself, his gamekeepers, or others, having his authority in writing: And if at any time the said houses, fences, gates, and drains, shall be found in disrepair, the proprietor shall have power to cause the same to be put in proper order, and to charge the tenant with the expenses thereof, unless he, the tenant, shall execute such repairs within one month after being required so to do by a notice in writing. But the present tack is granted under this condition always, that if the said or the heirs succeeding him in this lease, shall become bankrupt in terms of the act of Parliament of the 33d year of his present Majesty, or any subsequent act of the same nature; or shall execute any voluntary trust-conveyance of his property for behoof of creditors, and on account of inability to pay his debts; or if, by allowing the rent and other sums of money hereby contracted to be paid along with the rent to run into arrear, for one whole year together, the said or his foresaids, shall suffer a sequestration to be applied for and awarded against him or them; then, and in every such case, this lease shall, at the option of the proprietor, be rendered null and void, and he shall be at full

liberty, and hereby has right, to assume possession of the premises hereby let; and the said in that event, for himself and his foresaids, hereby renounces the possession, and consents that summary diligence shall pass for removing him or them from the possession, in the same manner as if this lease had expired by the lapse of the full term thereof, and this without prejudice to all action and legal remedies competent under the act of sederunt 1756, or otherwise, conform to the public law. Which tack the said , under the reservations and conditions before mentioned, binds and obliges himself, his heirs and successors, to warrant to the said and his heirs, at all hands, and against all deadly, as law will. For the which causes, and on the other part, the said binds and obliges himself, his heirs, executors and successors, to pay to the said , his heirs or assignees, or to their factor or chamberlain for their behoof, the sum of of yearly rent for each year's possession, at the terms following, viz.

and so on to continue the payment of the said rent thereafter, at the said two terms, during the currency of this lease, excepting the last year, with a fifth part more of liquidate penalty in case of failzie; and annualrent, after the respective terms of payment, during the not-payment: But declaring always, that the rent to become due, in virtue of this lease, for the last year of the said term of years for which it is granted, shall be due and payable, one half at the term of Lammas immediately preceding the termination of the said years, and the other half at the term of Martinmas next following, being the term of removal from the farm, with penalty and annualrent as effeirs. And further, to pay, in addition to the said rent, at the rate of 6 *per cent.* annually, of such sums as shall be laid out by the proprietor in building houses, and in forming fences or enclosures during the first years of this lease, not exceeding the sum of L. for houses, and L. for forming fences on the said farm, and that half-yearly, along with his said rent at the terms above specified; commencing the payment of said additional rent at the first term after such buildings and fences are completed, and the expense thereof ascertained. As also, if desired, to furnish and deliver yearly, between Christmas and Candlemas, the whole victual and meal stipend, payable for and forth of the said lands to the minister of the parish of , the proprietor being obliged to make allowance out of his rent, at the rate of the county fiars, for the quantity of grain and meal so delivered: And likewise, to perform the requisite services to the high and parish roads exigible for the said farm, annually, or to pay the conversion of the same when

when due, without allowance. Further, the said
obliges himself and his foresaids, that they shall adopt and observe, during the currency of the lease, the following mode of culture and cropping the said lands, viz. They shall not have, at one time, more than one half of the whole arable and usually tilled lands, under a white crop of grain, such as wheat, rye, barley, or oats; and, in no case, shall take more than two of such crops in close succession, from the same ground, or without the intervention of a grass or herbage crop, or else a hoed crop of potatoes, turnips, cabbages, beans, or any other such hoed crop as may suit the situation, or else a summer fallow; which hoed crops, or fallow, shall be properly tilled and manured; and shall not have, during the last four years of the lease, two such white or corn crops in close succession, but only one of such alternately, with an herbage, a hoed crop, or a summer fallow, in his, the tenant's option; and that, in regard to the management of the farm towards the end of the lease, they shall cultivate properly the following proportion of the usually tilled land, in the following manner, viz. In the third year, before its termination, they shall cultivate and have not less than one sixth part of these lands under a summer fallow, or some of the hoed crops before mentioned, and shall give then, this said proportion, full tillage, and a due supply of dung, or putrescent manure; and, in the second year, shall have this sixth part under corn, and along with such crop shall furnish and sow in proper seeds for hay or pasture, which part shall not afterwards be ploughed or broken up by them: As also, shall have in the said second year, before the end of the lease, not less than another sixth part in summer fallow, or under a horse hoed crop, to be properly dressed by tilling and manuring as above; which sixth part shall be under corn in the last year of the lease; and, along with this crop, grass or herbage seeds, of a proper assortment and quality, shall be procured and sown by the tenant, unless the proprietor shall give three months notice to the tenant, that he is himself to furnish and sow in the herbage seeds; and in either case, the tenant shall properly harrow and cover in the same, and shall afterwards preserve the lands so sown from being hurt or pastured by live stock of any kind, during or after harvest: And further, in the last year of the lease, they shall not have less than another sixth part of the arable lands, under either a summer fallow, or some horse hoed crop, dressed as above; for which grass, or herbage seeds sown in the last year, and for the cost of the tillage and leading out the manure to the summer fallow, and the value of the hoed crop, likewise of that year, the tenant is to be paid by the proprietor, at the arbitration of neutral men to

be mutually chosen; or, failing such choice and adjustment, in manner after specified: And further, the tenant shall allow the proprietor, without recompense, to sow grass seeds with all or any of the other white crops, in the last year of the lease, he, the present tenant and his foresaids, being bound to harrow and cover them in properly, and, after reaping the corn, shall not pasture, but preserve from injury, the young herbage. And the said also obliges himself and his foresaids, during the whole currency of the lease, to manage the farm in a proper husbandman-like manner, for the mutual advantage of all parties; and in order duly to sustain its productiveness, not to sell or send from it straw, hay, potatoes, turnips, or any other species of produce, excepting corn, and excepting, in the last year of the lease, the potatoes, hay, and unthrashed corn and straw of that crop and year, without previously obtaining the consent of the proprietor, or producing to him or his factor satisfactory evidence that they have elsewhere procured in lieu thereof, and have expended on the lands, that or the preceding year, a proportion of common dung or putrescent manure, fully equivalent to what the articles so disposed of would afford, were they consumed on the possession. Further, the tenant shall not raise lint, or any other such crops for the purposes of art, as afford little, if any, manure, without obtaining the consent of the proprietor, or producing to him or his factor satisfactory evidence that he has procured elsewhere, and expended on the lands bearing such produce, that or the preceding seasons, an additional and equivalent supply of manure, not less in proportion than what would be acquired from the straw of a corn crop, if such were then raised, according to the opinion and decision of neutral men, to be mutually chosen. It is also expressly stipulated and agreed to, that if the tenant shall depart from the regulations before specified, to the treatment and application of the lands, he and his foresaids, in that case, are bound hereby to pay the sum of Sterling of additional rent for each acre treated, or each crop taken, differently from the mode before mentioned; which additional rent shall not be considered as penal but as pactional; and which the said hereby obliges himself and his foresaids, to pay to the said and his foresaids, at the same terms with the original rent of the year, or years, in which such alteration takes place, with the like interest and penalty in case of failure: And for the purpose of ascertaining the fact of any deviations that may be made in the before stipulated plan of culture and cropping, and the amount of the additional rent thereby due, the parties oblige themselves to enter into a submission, within three months after the one shall be required, in writing, to do so

by

by the other, to two neutral men mutually chosen; and the determination of such arbiters shall be final. Further, the said obliges himself and his foresaids, in order both to defray any loss or damage that may happen to the houses on the possession from fire, and to assure to the proprietor an equivalent for the right of hypothec over the crop, in case of any loss thereof occasioned from fire, to insure, on their own expenses, in the , or some other insurance office, to be approved of by the proprietor or his factor, or agent for the time, the whole houses built or to be built on the said farm, to the extent of Sterling; and likewise the crop in the barn or barn-yard, or elsewhere, and the live stock in the offices on the lands, at a sum not less than one year's rent of the said farm, or at least not less than the fair value of the crops and live stock, if that value shall be under the said rent or yearly return of the farm to the proprietor, and to pay regularly the premium for such insurance during this lease: the policies of which insurance, and the money that may become due thereon, in case of accidents, the said obliges himself and his foresaids, when required, to assign and transfer to the proprietor, with full power to him to recover and apply the same towards defraying the loss sustained on the said houses, and discharging the rents due at the time, and for the current year. Further, the tenant is hereby taken bound to warn off from his farm, all sportsmen, excepting such as are permitted by the proprietor, and to suffer them to be prosecuted in his, the tenant's name. And the said obliges himself and his foresaids, to leave upon the farm, at the expiration of his tack, the hay and fodder of the last or preceding year's crop that shall not be consumed by his live stock, or shall not have been sold by him in the form of unthrashed corn or growing crop, previously to his removal, and likewise his crops of turnips or cabbages raised in the last year of the lease; for all of which he is to be paid by the proprietor, or incoming tenant, according to the valuation to be made by two neutral men mutually chosen; or, failing the election of such men, or their ascertaining the price of the commodity, the same shall be ascertained in the manner aftermentioned. Also, to leave the whole dung or manure that shall be on the said farm at the time of his removal; one half of the value of which, as the same shall be ascertained by neutral men as said is, the proprietor shall be bound to pay to the outgoing tenant. Moreover, the said obliges himself and his foresaids, to furnish the carriages of the whole materials that may be laid out on building or repairs on the premises, and to maintain and keep in good condition, during the currency of the lease, the whole houses, drains, or water-courses, fences

fences and gates, on the said farm, and to leave them in a proper state of repair at his removal; the proprietor paying the moiety of maintaining such fences as are required thereby for new plantations as above mentioned; and also, to protect the trees planted, or to be planted on the lands; and, failing his doing so, to indemnify the proprietor for any damage incurred by his fault or neglect, at the arbitration of neutral men, to be chosen as said is; and, failing such choice, to be ascertained in manner after mentioned; and likewise to repay to the proprietor, all such expenses as he may have laid out, in virtue of the reserved power before mentioned, in repairing such houses, drains, or water-courses, fences and gates, and that from time to time as the same shall be incurred, on production of the tradesmen or workmen's accounts or receipts, without further proof. And the said obliges himself and his foresaids, to flit and remove from the said possession, at the expiry of this tack, without any warning or process of removing to be used for that effect. And in regard that, by this tack, several references are made to arbiters to be mutually chosen, and that inconvenience may arise from either of the parties refusing or delaying to name an arbiter, or that such arbiters may differ in opinion as to the matters referred to them; therefore, it is hereby specially provided and agreed to by the parties, that in all cases in which any difference, and about which it is in general hereby covenanted, reference shall be made to arbiters mutually chosen; then, and so often as such event may occur, the parties bind and oblige themselves to each other, that they will enter into, and subscribe, a regular, valid, and formal submission, to arbiters, to be mutually chosen by them, with power to name an oversman, containing all clauses usual and necessary for rendering the said submission and decreet-arbitral to follow thereon effectual; and in the event that either of them, or their foresaids, shall refuse or delay to name an arbiter on his part, for determining anent any of the matters herein contained, which are made the subject of arbitration, within one month after being required in writing by the other party so to do, it shall be competent for such other party to apply to the Sheriff-depute or his substitute, for the time being, of the county of , to nominate an arbiter to be conjoined with the one named by the party so applying; and which arbiters, so named, shall have the same powers as if they had been mutually chosen by the parties themselves: And that in all cases where the arbiters, whether named by the parties themselves, or by one of them and the Sheriff, shall happen to differ in opinion as to the oversman to be named, it shall, in like manner, be competent to both, or either of the parties, within ten days after such difference or refusal,

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to apply to the said Sheriff to nominate an oversman for that purpose, whose determination shall be final, and shall be equally binding on the parties, as if such oversman had been named by arbiters mutually chosen by the parties. Declaring hereby, that in the above mentioned cases, where applications may be made to the Sheriff for the nomination of an arbiter or oversman, the power of making such a nomination is implicitly committed to, and vested alone in, the said Sheriff-depute or substitute, to be exercised by either before whom the application may first come, and in such manner as he shall judge proper; and that it shall not be competent to either of the parties to bring such nomination under review, or to make it the subject of any law proceedings, either in the said Sheriff's court, or in any other court whatever. And both parties bind and oblige themselves and their foresaids, to implement the premises to each other, under the penalty of Sterling, to be paid by the party failing, to the party performing or willing so to do, over and above performance. And they consent to the registration hereof in the books of Council and Session, &c.

FOR THE FARMER'S MAGAZINE.

Account of the Husbandry of Stirlingshire.

STIRLINGSHIRE has never been distinguished for the industry of its population, or the perfection of its husbandry. At some future period it will probably possess stronger claims to notice, if we can now form any judgment from its local advantages,—an improveable soil, an inexhaustible supply of minerals, and an easy access to the most favourable markets.

This county is situated in the central district of the kingdom; is accessible, independently of the Great Canal, by navigable rivers from either sea; and is contained, partly in the Highlands, and partly in the Low Country of Scotland. Its length, from east to west, is about 50 miles; its breadth, from south to north, at a medium, will not exceed 16; and its area is supposed to contain about 794 square miles; or, 358,336 Scotch acres—the superficial measure used throughout the county—equal to 450,560 English acres. On the east it is bounded by West Lothian; on the north by the counties of Perth and Clackmannan; and on the west and south by those of Dunbarton and Lanark.

The general appearance of Stirlingshire is marked with the same features which characterize the central district of Scotland. The Grampian mountains, which form a continuous ridge from Dunbarton on the west, to Aberdeen on the east coast, cross and occupy the north-western extremity of this county. Throughout its whole extent, this ridge is accompanied by another on the south,

south, of smaller breadth, and of inferior elevation. As the continuity of the latter is frequently broken by the large rivers which rise on the southern descents of the Grampians, and flow into the German ocean, it has never been distinguished by one common appellation. One part, situated between the rivers Esk and Tay, and contained principally in the county of Forfar, is called the Sidlay hills; another, included in Perthshire, between the Tay and the Forth, is called the Ochills; and the last, crossing the middle of Stirlingshire, and lying between the Forth and the Clyde, was anciently called the Lennox hills, because it was situated chiefly on the earldom of that name. This range, at present, has no common name: but as the Campsie hills are situated in the centre, and are the most considerable in point of extent and elevation, that appellation may be conveniently extended to the whole district. The intervening space between those parallel ridges, which cross the whole kingdom, varies in breadth from five to fifteen miles. Though the surface of this tract is diversified with rising grounds, yet these eminences are generally inconsiderable, and 'hide their diminished heads,' when compared with the lofty mountains on either side. From this circumstance, the district has obtained the name of Strathmore, or Great-valley. To form an idea of Stirlingshire, therefore, you must figure to yourself two mountainous ridges crossing it obliquely from west to east, and succeeded respectively, on the south, by an extensive champaign.

That part of the Grampians situated in this county, presents but a bleak and barren appearance, and consists only of mountain rising above mountain. Some of these are of very great height. Benlomond is 3262 feet above the level of the sea, rising abruptly from the bank of Loch Lomond, and assuming a conical form towards the summit. This assemblage of mountains, indeed, is much more interesting to sentimental tourists, than inviting to practical husbandmen. The simple natives had been permitted, from time immemorial, to view with indifference the picturesque scenery with which they are surrounded, and to retain without disturbance, the heresy that the most pleasing prospect is the low-lying fertile fields on the banks of the Forth, till some clergymen, about fifteen years ago, officiously published descriptions of this district in the Statistical Account of their parishes. Since that time they are, every season, amazed at the endless shoals of tourists who come to admire their rugged precipices, and heath-covered mountains.

The Campsie hills, in the centre of the county, possess no higher claim than utility; they extend, at a medium, about six miles in breadth; they vary in height from 500 to 1000 feet above the

the level of the sea. With a few exceptions, they rise with a gentle swell, seldom deformed with rugged rocks, and always covered with verdure to the summits. About fifty years ago, this range was covered with heath, and as bleak in its appearance as the Grampians. The introduction of sheep instead of black cattle, gradually effected a total change. Some farmers now regret the absence of the heath, as the top of that plant was accessible to sheep, and afforded them a precarious sustenance, when every species of grass was buried with snow. A necessity arises of feeding with hay in this exigency; but this practice is universally condemned; professedly, because sheep, once accustomed to be hand-fed, soon become too indolent to go in quest of pasture at the return of thaw. The truth, however, seems to be, that the farmers themselves are too indolent to provide hay in summer, and to distribute it among their flock during the severities of winter. They prefer the plan of removing their sheep to low-lying districts where the climate is milder, and where the snow speedily disappears.

Strathmore, in this county, approaches to its western limit, and gradually dwindles to its shortest span. The whole vale, between the Forth and Loch Lomond, was accurately surveyed by the celebrated Smeaton, in order to ascertain the practicability of conducting the Forth and Clyde navigation through this tract; and the point in the bog of Bolat, from which water descends to either sea, was found to be 222 feet above high-water mark. The Endrick, a considerable rivulet, gives name to the strath, flows in the bottom of the vale, and empties itself into Loch Lomond. Along its banks is a narrow tract, apparently alluvial in its origin, and now converted by culture into a rich loam. Where the ground begins to rise on either side, the acclivity consists of a wet tenacious clay. Further up, towards the base of the mountainous ridges, the soil becomes thin, moorish, and gravelly; the surface is covered with short heath, and every hollow generally contains a peat-moss.

The low grounds, on the south of the Campsie hills, are more extensive than those on the north. The county here presents a waving surface; some considerable rivulets wind through the vale; the ground imperceptibly rises as you recede from the county; and the prospect is only terminated by the distant hills of Lothian and Clydesdale. It was to this tract that Smeaton gave the preference for the Forth and Clyde navigation. That canal was finally conducted through this district; it runs twenty-five miles—upwards of two thirds of its length—through this county: its highest elevation is only 160 feet above the level of the sea. This district, though it have the same wet and reten-

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tive soil with Strathendrick, possesses the happy peculiarity of abounding with coal. Limestone, ironstone and freestone, are found in almost every part of the county: but every attempt has failed to discover any workable seam of coal on the north of the Campsie hills. It is probable that none is to be found, as the northern boundary of that field of coal which crosses the centre of Scotland, begins at Campbelton in Argyle, and terminates about St Andrews in Fife, passing along the southern verge of the Campsie and Ochill hills.

During the reign of the feudal system, the county of Stirling, like the rest of Scotland, seems to have been engrossed by a few of the greater barons. Their estates were partly parcelled out among their military retainers, and partly occupied by a set of men, characterized, in the old acts of the Scotish Parliament as 'puir people that labouris the ground.' These expressions sufficiently ascertain the wretched condition of farmers at that early period, and render it probable that their rents were commonly paid by performing *bondage* work to the proprietor, and giving a portion of their farm produce. Greater attention seems to have been paid by the barons to ascertain the boundaries of their estates, than to increase the fertility of the soil, or to improve the condition of their tenants. For this purpose, the custom was instituted and observed of *riding the marches*, a ceremony now obsolete in these parts, and of which some faint resemblance is to be found only in those decayed burghs who have preserved no other remnant of their greatness but their landed property. It seems that the procession went formally round the boundaries of the estate; and, 'if ancestry in aught can be believed,' was attended by a large detachment of children, a number of whom were regularly flogged at every conspicuous station, that the sensation of pain, associated with the spot, might powerfully assist their future recollection. *

At that early period, the greatest estate in the county belonged to the family of Lennox. After the decapitation of the last Earl of the first dynasty, in the reign of James II., I believe the property was, in the first instance, divided among his three daughters; and as, in those times of anarchy, *force* and *right* were nearly of the same import, it was gradually diminished, not by the purchases, but by the encroachments of the neighbouring barons. A chamberlain of the Lennox family, from the emoluments of office, was enabled to purchase the barony of Drymen, containing

* My informer of this old recipe for improving the memory, was William Finlay Esq. of Moss, who, since this paper was written, died at the advanced age of 94 years, in the cottage where the celebrated Buchanan was born.

taining the greater part of the extensive parish which still
s that name. This elevation of an upstart commoner seems to
e been a grievous eye-sore to feudal pride, and was the founda-
of a deadly contest which, for a complete century, he and his
ily had to maintain with the Earls of Monteith. Although
men (for it seemed more common with proprietors in Scotland
ssume the name of their lands, than to follow the ancient
le of 'calling their names by their lands') received a full
ification, on a reference of the quarrel to the sovereign; yet
udged it expedient to retire from that turbulent neighbour-
d, and accordingly sold his estate about the end of the four-
ith century. By that time, laws had acquired some authori-
nder the vigorous administration of the houses of Bruce and
tuart. The protection afforded to the labouring classes na-
lly roused them to industry; and industry, directed by pru-
e, is usually rewarded with wealth. A portion of this spi-
seems to have been also imbibed by the cultivators of the
nd, who then began to acquire some respectability, if we
judge from the important legislative enactments which were
after made in their favour. It was among farmers that pur-
ers were found for the barony of Drymen. The proprietor,
r dividing his estate into small portions, and disposing of it
ably to his own tenants, retired to the eastern district of
hshire, retaining the name of Drymen, (the Scotch, and,
efore, the proper pronunciation of Drummond to this day),
by there purchasing the barony of Stobhall, laid the founda-
of the princely fortune afterwards acquired by the family of
h.

he original estate of the Montrose family was situated in the
ities of Forfar and Perth. By the grant of Strathcarron from
Crown, by the acquisition of Mugdock from the Earl of Len-
, and by an exchange with Graham of Fintry, they accumu-
l an extensive property in Stirlingshire. The greater part of
as alienated in small feus during the minority of the great
quis of Montrose, by his guardians; and afterwards, during
civil wars, by himself, to support the cause of his Sovereign.
various subsequent periods, considerable alienations of the
e nature were made by the Earls of Marr, of Monteith, and of
cairn. The last transaction of this kind occurred at the com-
cement of the seventeenth century. The Earl of Wigton was
of the members of the last Scotch parliament who opposed the
n of the sister kingdoms. Believing conscientiously that the
mplishment of that measure would be attended with the in-
ble ruin of Scotland, and wishing to take every precaution
nst the occurrence of the evil day, he disponed to his tenants,

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on condition of continuing to pay their then rents, his extensive estate in the parishes of Denny, Kirkintulloch, and Cumbernauld; retaining only a few fields around the family mansion. Several considerable alienations have occurred in later times, particularly in consequence of successive rebellions in favour of the Pretender. The largest of these, even the extensive forfeitures of the Earl of Callander and of Viscount Kilsyth, passed *in cumulo* from one party to another, without being frittered down into minute portions, to enlarge the circle of competition.

It is not easy to determine what proportion the smaller bear to the greater proprietors. The former are greatly superior in number; the latter have the advantage in extent of property. At any rate, the class of diminutive proprietors has not recently increased, and is likely to diminish. From the increasing opulence of the country, there are few estates, however extensive, brought to the market, for which there does not appear a sufficient competition of purchasers for the whole, so as to supersede the necessity of frittering them down as formerly into ploughgates. One is disposed, at first sight, to regret the dissolition of the antient system, and to imagine that the most salutary consequences must ensue, when a part of the country, divided into small properties, is possessed and cultivated by the same persons. This class, appearing to combine the security and capital of proprietors with the industry and experience of farmers, should be the first to attempt, as they seem best qualified to execute, the substantial improvement of their property. Their skill is not fettered by the absurd conditions, nor are their operations interrupted by the oppressive services to which tenants are sometimes subjected in their leases. Their tenure being perpetual, or tantamount to perpetuity, exempts them from the mortification of seeing others reaping where they have sown, and secures to them the full benefit of every outlay of capital, however distant in its return. This reasoning, as commonly fares with every conclusion from abstract premises, is decidedly contradicted by experience. Small proprietors undoubtedly have every inducement to improve; and, if they had only the will, improvement would certainly take effect. They enjoy many advantages above actual professional farmers; but, while a certain degree of encouragement is necessary to inspire industry, a superabundance of encouragement as naturally tempts to indolence. Necessity is allowed to be the mother of invention. I am inclined to think that she stands in the same relation to industry. Those small proprietors have never been subjected to her stern authority. There, lands supply, with a little [illegible] the necessaries of life. The desire of superfluities is [illegible]rong as their aversion to the trouble of procuring them.

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The amount of their prudential ambition is to suffer few pains, and to enjoy as few pleasures. Amidst surrounding industry and opulence, they remain contented with the frugal fare, and humble accommodations of their forefathers.

From these observations, it appears that there is no reason to regret the diminution which has recently taken place in the numbers of small proprietors. They have long been free from the vicissitudes of fortune. In some cases, it is said that the line of succession has continued unbroken, and the inheritance of their fathers descended unaltered, for a period of two hundred years. Few instances have occurred of the union of two properties. It has more frequently happened, that one property has been broken down into minute portions, to make provision for a numerous progeny; in consequence of which, there are now many small possessions of ten or fifteen acres, though every one of them appear to have originally contained a ploughgate of land, or from forty to fifty acres of arable ground. The conclusion of the American war was the period from which this system began to decline. Some of the most enterprizing young men, allured by the golden prospects of commerce, were tempted to sell their paternal acres, and to embark the price in mercantile adventures. Others, descending into the vale of years, and incumbered with a rising family, from the increasing expense of living attendant upon the progressive opulence of the country, finding that their lands were inadequate for their support, contracted debts which they were unable to pay, and at last procured a place in the list of bankrupts.* From the operation of these causes, some larger proprietors have found an opportunity, of which their recently advancing rents have enabled them to avail themselves, to round their estates. I have been informed by some clergymen, that, during the last fifteen years, no less than twenty of the smaller proprietors have disappeared, in their respective

* A striking illustration of this statement occurred in the parish of Kilsyth, at Claharry, which originally belonged to the family of Montrose; but was alienated during the civil wars in the seventeenth century. It has latterly passed through the hands of three proprietors. Each farmed it himself, and each successively became bankrupt. It was then bought up by the late Duke of Montrose. From having ruined three successive proprietors, it was in no great request among farmers. At last, one of the Duke's tenants, who had been outbidden for his former farm, ventured [illegible]ly, or rather desparingly, to take Claharry. He regularly paid his rent, brought up decently a numerous family, and, at his death last year, left a competent portion to each of his children. The farm consists of 40 acres of arable ground, and about 500 acres of hill pasture, and was rented at 100l. a year.

parishes, from the list of heritors. Throughout the whole county, that class of men is diminished within that short period, probably by one fourth. Those who retain their paternal inheritance, have the self-command to deny themselves all the refinements of improving society, and the frugality to adapt their living to a diminishing income. They may be generally characterized as independent in poverty, and stationary amidst improvement. If any person wish to become acquainted with the husbandry of former ages, he might study with advantage the indolent habits, and barbarous practices, of the small proprietors in Stirlingshire. It will be easy for him, without the assistance of a guide, to discover their antique and venerable residences, from observing the homestead skirted with trees, in some cases coeval with the estate, and planted by the founder of the family; the humble mansion covered with thatch, and having a few windows much of the same size with those that appear in the castles of feudal times; the stone mortar lying neglected in front of the barn, in which barley was prepared for the pot by the friction of a wooden mallet; the barn itself standing south-east and north-west, with two cross doors, to give ingress and egress to the *commissioned* wind; and the corn kiln, situated in the brow of some rising ground, in which the grain was always dried before it was sent to the mill. This last appurtenance must be sought at a little distance from the other buildings, as its site was prudently removed so far off, that no communication might take place with them when it happened to be in flames; an accident to which those kilns were frequently subject, from the platform on which the grain is laid, being composed, not of cast iron, nor of burnt bricks, but of thin poles covered with straw. *

Beſides

* Not long ago, at one of those houses, I met with a quern, though the practice is entirely obsolete in this country, and confined for many years to the Hebrides, of drying corn in a pot, grinding it in a quern, and baking it into cakes, in the course of a morning. Nobody understood its use. The general opinion was, that it was a font, as it is of excellent workmanship, and was found in the ruins of Graham's castle, the residence of Wallace's companion of that name, which was destroyed by the English about the year 1300. It was lately recognized as a quern by a Highland shepherd, on his way to the Tryst of Falkirk. Water-mills are frequently mentioned in the Saxon period of English history. From the remains of a Roman mill lately discovered at Manchester, Whitaker (Hist. of Manch. p. 315.) infers, that this useful engine was introduced by the Romans. As great part of Stirlingshire is situated beyond the wall of Agricola, the utmost limit of the Roman empire, water-mills must have

Besides the general obstacles to the advancement of agriculture, common to the whole kingdom, there were some local disadvantages almost peculiar to this county. Of these, the chief was its vicinity to the Grampians, whence, often,

'A band of fierce barbarians, from the hills,
Rush'd, like a torrent, down upon the vale,
Sweeping our flocks and herds.'

This description is no less exquisite as poetry, than authentic as history. All the Highland clans, from the southern descents of the Grampians to the interior of Inverness-shire, however separated by their jarring interests, or exasperated by their mutual conflicts, agreed in marking the Low country as their lawful prey. The Macgregors were the most infamous of these predatory tribes, being ever in arms against the reigning sovereign, subjected by parliament to severe penalties, and uniformly exempted in every act of indemnity. They had ultimately no fixed residence; but skulked among the recesses of the Grampians, in the conterminous districts of the counties of Perth and Stirling, as being the most convenient station for carrying on their predatory occupation. A small fort was erected at Inversnaid, near the head of Loch Lomond, and garrisoned by a detachment from the castle of Dunbarton, in order to suppress those banditti, or to intercept their incursions. As the influence of that military station did not extend beyond the limits of the vale in which it was situated, it afforded no material protection to the Low country; and only subjected the Highlanders to the occasional inconvenience of taking a circuitous route in their plundering expeditions. At last, this defenceless district bethought themselves of the sage maxim of hiring a thief to catch a thief; placed themselves under the protection of the outlawed Macgregors, and purchased that blessing by paying a yearly tribute, under the designation of *black mail*, i. e. rent. Regular contracts were drawn up by the proprietors of the counties of Perth, Stirling, and Dunbarton, in which it was stipulated, that, if less than seven cattle were stolen, which peccadillo was styled *picking*, no redress should be required: if the number stolen exceeded seven, which enormous theft was designed *lifting*, the Macgregors became bound to recover. This duty they performed with considerable address; and instances of their success are still handed down by tradition. In the year

have been later in their introduction into this country. Upon the same principle with Whitaker, one might argue, from the discovery of a quern in the ruins of Graham's castle, that this rude machine was used, and that water-mills were unknown, at the commencement of the fourteenth century.

1720, four ſcore of ſheep were ſtolen about Martinmas, from Stirling of Craigbarnet, within twelve miles of Glaſgow. The Macgregors, upon receiving intimation, ſet out in purſuit of the thieves, who happened to be the Camerons of Lochaber,—traced them to their receſſes in Inverneſs-ſhire, and, after ſix weeks, reſtored the whole flock, with the exception of four ſheep.

A robbery which occurred in the ſame neighbourhood may be mentioned alſo to illuſtrate the ſyſtem of terror which then prevailed in the country. Two Camerons, one morning, carried off ſome body clothes and linen webs, from a waſhing-green. As their burden was cumberſome from being wet, they conſulted their caſe rather than their ſafety; and ſpread it to dry, on the brow of the Campſie hills, above the manſion-houſe of Kirkton. The proprietor, who had ſerved under the Prince of Orange, and who was indignant equally at the original theft, and the ſubſequent inſult, raiſed the neighbourhood, purſued the robbers acroſs the Campſie hills, and traced them to Balglas in Strathendrick. Dreading the Highland dirk, every one declined attending their leader and attacking the houſe. It was agreed to ſupply want of courage by ſtratagem. Having ſurrounded the houſe with a cordon of men with ropes, after night-fall, they raiſed from all their poſts a hue and cry, which was no ſooner heard by the Camerons, than they ruſhed out with their drawn daggers; but they had only run a few ſteps, when they were entangled with the ropes, and fell to the ground. Being taken at this diſadvantage, they were delivered to the next Heritable Juſticiar, and ſummarily ordered to the Gallow-hill.

This ſyſtem of plunder, with the countervailing ſyſtem of protection, is fully deſcribed in the ſtatiſtical account of Scotland by the clergymen of this diſtrict. It continued down to the year 1745. Rob Roy, the leader of the Macgregors, levied *black-mail* in the pariſh of Campſie, within ſix miles of Glaſgow, a few months before the commencement of the rebellion. This ſtate of anarchy was adverſe to the progreſs of improvement. From the dangers with which the farmers of the Low country were ſurrounded, they were obliged, for mutual defence, to cluſter their houſes together into townſhips, and, in conſequence, to paſture their cattle in one herd, and to cultivate their lands in *run-rig*. The inhabitants of this diſtrict, indeed, were ſcarcely leſs barbarous than the predatory tribes of the Highlands. Though liable to be aſſailed by the common enemy, they had numberleſs animoſities and hoſtilities among themſelves. An eternal feud ſubſiſted frequently between two neighbouring baronies; and always between two contiguous pariſhes. The country fairs, which are numerous,

numerous, and much frequented in a rude state of society, were the seasons tacitly fixed for settling their differences. Scarcely a a village is to be found where the people cannot point out a spot that was marked with the blood, and is haunted by the ghosts, of their antagonist parishioners. It is surprising that those disorders should have been allowed to continue till so recent a period. No radical cure seems to have been applied, till the suppression of the last rebellion. In consequence of the vigorous measures which were then adopted, of disarming the Highlanders—of forming military roads through disaffected districts—and of establishing a a public administration of justice on the ruins of heritable jurisdictions, the blessings of peace and security were diffused through every rank of society.

Of the state of husbandry at that period, no reader of your instructive miscellany can be at a loss to form a just conception, from the ample accounts which it contains of the antient rural economy of Scotland. Such notices only will be mentioned in this paper, as seem necessary to ascertain the era of incipient improvement in this district. The farms were small. Some estates were occupied in *run-rig*. The size of farms, when cultivated separately, never exceeded a ploughgate of land. The implements of agriculture were few in number; and, if feeble in their effect, possessed the recommendations of being cheap in the materials, and simple in the construction. Most of them were made by the farmer, without the assistance of a mechanic. A plough, as being a complicated machine, was reserved for the blacksmith: it was made of young birch trees; and, if the tradesman was expert, it was completed in the course of a winter's evening. This rude implement scratched, without difficulty, the surface of old *crofts*, which were reduced, by constant tillage, from time immemorial; but made very sorry work in *outfields*, where the sward was tough, and stones numerous. Some industrious farmers, in this case, followed up the ploughing with a second operation, called *mending the land*; that is, a person with a small triangular spade attended the plough, dug up those blanks where it was thrown out, laid over those furrows which the mouldboard was unable to invert, and threw spadefuls of earth on those parts where the furrows were too shallow to afford mould for covering the seed. The *outfield* and *infield* system tallied admirably with the state of manners. From requiring a few weeks labour only in seed-time and harvest, it allowed people every facility to take their rest, when inclined to be lazy; to indulge in merriment when occasions recurred for festivity; and to attend village fairs when their minds happened to be sanguinary. The oats raised by the farmer were sufficient for the seed of the following crop, and the support of

the family for the year; the barley met with a ready ſale among the illicit diſtilleries, and its price was allocated for the payment of the rent; and the butter, cheeſe, and poultry, were exchanged for ſuch neceſſaries as were not produced on the farm. Theſe minor products were then of leſs account, from the difficulty of finding a market, as, from the weſtern diſtrict of this county, and even within ſix miles of Glaſgow, they were conveyed to Edinburgh.* The traffic was carried on by a ſpecies of middle-men, called *cadgers*, who, in the abſence of carts, and even of roads on which carts could paſs, conveyed their commodities in panniers on horſeback. From this circumſtance you will be enabled to form ſome conception of the inſignificance of Glaſgow about the middle of laſt century; and of the rapidity with which it has ſince riſen to be, in point of population, if not of opulence, the ſecond city of Britain; preſenting now an effective demand for every neceſſary convenience and ſuperfluity of life; and drawing ſupplies, not only from Clydeſdale, but, after ſucceſſively traverſing the counties of Dunbarton and Stirling, even from Breadalbane in the central Highlands.

The introduction of carts drawn by one horſe, took place in this diſtrict only about forty years ago. Some waggons were previouſly uſed by proprietors; but theſe were above the reach of ſmall farmers, all their carriages being performed on horſeback. Some coals were thought neceſſary to enliven the dulneſs of a peat fire;—a horſe, at a time, carried two cwt., which quantity was called a load; and is ſtill the unit employed in calculating the contents of carts or waggons. Some dung was alſo uniformly laid on the ground for barley, while oats were left to unaſſiſted nature. Sacks were filled with dung at the midden-ſtead, and afterwards carried to the intended field on horſeback. This being a very tedious operation, as little dung was uſed as poſſible. The greater part, as being uſeleſs, and a nuiſance, was floated down rivers; and, if no ſtream was near, burnt during the drought of ſummer. Even after carts had become common, the prejudice againſt dung continued unabated: people were very ſlow to believe its utility, except for barley. Strathblane is now the

* A curious occurrence may be mentioned which took place under this ſyſtem. Some ducks which had been bought in Campſie, while expoſed for ſale in Edinburgh, finding themſelves at liberty, roſe on wing from the Graſsmarket: ſome of them were found at Linlithgow; and others of them actually returned to their native dunghill. The diſtance between Edinburgh and Campſie is forty-five miles. What principle directed the ducks in their flight? Of the fact, I am informed by the Reverend Mr Lapſlie of Campſie, that his father was an *eye-witneſs*.

the beſt cultivated pariſh in this neighbourhood, and preſents ſome admirable ſpecimens of huſbandry; yet the Reverend Dr Gibb, at his admiſſion about ſixteen years ago, obtained dung for the carriage. One farmer in his neighbourhood who had accumulated a large quantity, conſidered it ſuch a nuiſance, that he lent his teams to aſſiſt in removing it; and, as the work was thought amazingly arduous, his example was followed by the whole pariſh. Even at this time, in the pariſh of Gargunnock, a tenant upon the eſtate the late General Campbell, whoſe eulogy is contained in a recent Number of the Farmer's Magazine, retains the primitive mode of clearing his midden-ſtead, which Hercules employed in purging the Augean ſtable.

To form an idea of the preſent ſtate of Stirlingſhire huſbandry, it will be neceſſary to examine ſeparately its three rural ſubdiviſions. Of theſe, the Carſe, from fertility of ſoil and priority of improvement, has obtained the precedence. This diſtrict ſtretches along the Forth; extends thirty miles in length, by two in breadth; and is elevated, from ten to twenty-five feet above the level of the ſea. The ſoil is a bed of clay, generally of great depth, unmixed with ſtones or gravel. That in the vicinity of Stirling is probably the richeſt in the kingdom; it gradually declines as you aſcend the Forth; ſo that, while in the former ſituation, farms let for 5l. per acre; in the latter, they are one half lower. The whole diſtrict is cultivated on the correcteſt principles of huſbandry, even though the farms may be characterized as ſmall. The old ſerpentine ridges of four feet in height and forty feet in breadth, are ſtraightened, levelled, and divided; the ordinary breadth being eighteen feet; and the elevation of the centre effected by two gatherings of the plough. Every ſpecies of grain is raiſed with ſucceſs. From richneſs of ſoil and mildneſs of climate, the produce is ample and excellent. It were deſirable to grub up every tree and even every hedge, except ſuch as are neceſſary to ſkirt public roads, as, in this low-lying diſtrict, not only unprofitable, but injurious; to deepen the open drains, ſo as to prevent water from ſtagnating either in furrows or ditches; by freeing the ground of moiſture, to lengthen the ſeaſon, and to facilitate the proceſs, of ſeeding wheat; to extend, ſo far as practicable, the drill huſbandry, not only to improve the quality of the crops, but occaſionally to ſuperſede the neceſſity of a bare fallow; and, in a favourable autumn, to admit the introduction of wheat after beans.

The ſecond district is called the Dryfield, and contains the vale on the north, and the open country on the ſouth of the Campſie hills. It derives its name, not from the abſolute dryneſs of the ſoil, but from the contraſt which it formerly preſented to the

wetness of the Carse. Though several parts of this district have arrived at a high state of cultivation, still they are inferior to the Carse in fertility of soil, and their produce is rated in the fiars cheaper by five per cent., in consequence of the deductions which it sustains to raise up to the average price the grain produced in other parts which have scarcely advanced beyond the first step of improvement. The size of farms is enlarged, and one man now occupies five or six of the old ploughgates. Something has been done in draining; a better style of ploughing has been introduced, and manures are more liberally applied: but no judicious rotation of crops has ever been adopted; small patches of wheat are sown after potatoes, while green crops are much neglected. Bear-seed ideas, to use an expression which you have happily introduced, generally prevail; and, in some instances, the distinction between in-field and out-field is retained with primitive precision. It may be considered rather an unfavourable symptom of a corn district, when it is backward in the introduction of thrashing machines: several parishes, however, may be named where there is but one, and some where there is none. The leading error of Dryfield husbandry, is the lateness of the seed-process. Oats are sown about the middle of April, and the bear-seed is hardly finished by the end of May. The immediate effect of this practice, is a late and sickly braird: the soil has no covering from a burning sun: the drought penetrates to the roots of the plants, while the season seldom affords a shower to refresh the drooping blade. It is only when the nights begin to lengthen, as the expression is, or rather after the rains which set in about the solstice, that a vigorous vegetation commences. The corns, springing up with the rapidity of mushrooms, furnish abundance of straw: but the ear is proportionally light, and the harvest, from the lateness of its arrival, is always precarious. These evils being irremediable, suggest the necessity of an early seed-time. If it be objected that the seed, if early sown, will be rotted by the wetness of the soil, it ought to be remembered that the soil of this district, when contrasted with the Carse, has been designed Dryfield; that it is little inferior to the Carse in mildness of climate, and that, in either respect, it must admit of as early a seed-time. If it be apprehended that, in a cold backward spring, weeds, being of a hardy growth, will overpower the braird, I acknowledge that such an apprehension is well-founded in the present state of the country, and would thence infer the absolute necessity of clearing the soil of weeds, and of introducing an alternation of fallow crops.

The last district is called the Muirland, containing about one-third of the county, and including the Campsie hills in the centre,

and

and the Grampians on the northern extremity. The cultivation is very rude and limited; the grain raised scarcely exceeds the internal consumption; and the little surplus brought to market, sells about twenty per cent. lower than the produce of the Carse. The greater part of the district, therefore, is occupied under pasturage. That among the Grampians, from its high elevation, is of inferior value. The summit of the hills only is accessible to cattle; the glens being under tillage, and the first acclivity under oak coppice. On the estate of the Duke of Montrose, which is chiefly situated within the county of Stirling, the annual cutting lets on an average at 3000l.; it amounts this year to 5000l. Of the pasturage on the Campsie hills, it is difficult to conceive the richness and luxuriance. Milch cows are maintained, and black cattle are fattened, during summer, on their summit; towards the close of autumn, as much coarse hay is gathered on the grounds previously depastured, as suffices for fodder during winter to young stock. The flats along the banks of rivulets, are reserved for meadow hay, and the quantity raised on some farms, amounts to 7 or 8000 stones annually. The economy of this district is susceptible of great improvement, by rendering the ground under tillage subservient to that under pasturage. The soil is admirably adapted for the turnip husbandry; and as many turnips should be raised as might prevent the flocks and herds from declining, during winter, from the high order which they attain in summer;—as may enable the ewes to suckle their lambs in a backward spring, and to prepare them for the market before the Highland sheep are brought down from a thousand hills;—as may suffice for fattening the ewes themselves, when superannuated, and preclude the necessity of hiring turnip fields in other counties.

Fintry Manse, 14th Feb. 1808. JOHN GRAHAM.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations on the Rotation of Crops proposed by Sir JOHN SINCLAIR *for Northern Husbandry.*

SIR,

THE present improved state of agriculture over Scotland in general, must certainly be highly gratifying to every one possessed of the smallest degree of national spirit. The highly cultivated fields seen in many parts of it, and the weighty crops thereon produced, are delightful objects, reflecting indeed much merit on the owners, and holding out a flattering prospect of the productive state to which this country may be brought, as well as a laudable example for the imitation of others. Notwithstand-

ing the state of perfection, however, which some places have attained to, no inconsiderable portion of the country is still far behind, even under the management of very active and enterprizing agriculturists; which may perhaps proceed from an error which has long been, and still is, in some degree prevalent among farmers, namely, a propensity to undertake more than can be accomplished in a proper manner. Two acres properly cultivated, will yield more produce than three where the operations have been performed in a hasty and superficial manner; and, indeed it is evident, in many fields which are to be met with, that had the labour and manure bestowed upon the whole, been confined to two-thirds or to the half, more would have been produced, and that the after returns would have been in the same ratio. It is foolish to imagine, as some people do, that our agriculture is arrived at its zenith of perfection; for the greatest pitch any science or profession has as yet attained to, is only such as renders it the more susceptible of further improvement. The highest cultivated field is only brought into a state for making greater returns for future improvements than what had been obtained for former meliorations. In short, improving the soil is like fattening cattle—which, the farther they are advanced, will pay the better for what is afterwards bestowed upon them.

Attention to the increase and improvement of dung seems to be much wanting. It is often applied upon the land in an undigested and moistless state, containing almost nothing for the soil to imbibe, as if the bare name of dung were sufficient. The quality of that made by wintering cattle, is generally much complained of; but it appears to me that a remedy for this, which is neither difficult nor expensive, is in the power of almost every person. Instead of suffering it to remain in the court or yard, through the whole season, in a compressed state, impenetrable to air and moisture, the two indispensable requisites for promoting corruption, it should be carted out occasionally on wet days; and when there is not sufficiency of moisture, it might be sprinkled with water and a little pulverised earth; or, what would still answer better, with that muddy high coloured liquid which is seen running from every farm steading in wet weather. Were this valuable liquid carefully collected, and kept in a convenient reservoir till putrefaction ensued, it would, when used in this way, communicate to the dung a degree of richness which it would not otherwise possess. Once or twice turning over a dunghill, managed in this manner, would throughly corrupt and decompose the whole mass, without much fermentation, which ought to be avoided as much as possible, being always attended with a proportional waste. But the liquid abovementioned not only

only improves the quality, but increases the quantity of dung, that great desideratum in farming; and, when sufficiently putrefied, enriches peat earth more effectually than the portion of dung prescribed for that purpose by Lord Meadowbank. It also corrects the quality of dung when threatening to *fire-fang*.

Some people pretend that rural improvement has been greatly promoted in Scotland by land being let at *rack-rent*. They are certainly, however, in a great mistake; and it may with safety be affirmed, that the most important and substantial improvements were effected under rents much more moderate than those of the present day. *Rack-rent*, which is of modern date, may therefore be justly considered rather as the offspring than the parent of improvement; and, there is reason to fear that, if the system is persisted in, its baneful effects will in a short time be gradually experienced over the whole country; nothing being more certain, than that whatever lessens the farmer's profits, or diminishes his capital, operates as an obstruction to further improvement. The effects of *rack-rent* are apparent in many places already, not only in the severe rotations that are resorted to, in order to enable the farmer to meet his landlord at term-time, but also in the management of summer fallows and drilled crops; all the operations being performed at as little expense as possible—consequently in a more superficial manner than was customary not many years ago. Daily experience and observation teach that, in every line of life, our exertions are in direct proportion to the magnitude of the recompense of reward in view; the desire of advancing ourselves and families in the world, being the great spring of action among men. Now, according to this rule, *rack-rent*, which curtails the farmers prospect of gain, must tend to enervate the powers of his mind, and, of course, weaken his exertions,—therefore is to be considered as inimical to agricultural improvement.

As the rotations proposed in your last number for the cultivation of Ross-shire, appear to be in a great degree hypothetical, it may not be amiss to mention some circumstances that have been found to militate against part of them. Those proposed by that truely patriotic gentleman Sir John Sinclair, Bart. are—For light land, 1st year, fallow; 2d year, wheat; 3d year, hay; 4th year, pasture; 5th year, oats; 6th year, turnips; 7th year, bear; 8th year hay, and 9th year wheat, with one furrow.—For heavy soils, 1st year, fallow; 2d year, wheat; 3d year, beans or grass seeds; 4th year, hay; 5th year, pasture; 6th year, oats; and fallow afterwards.

The rotations suggested by Mr Dudgeon are—For light soils, 1st, fallow; 2d, potatoe oats; 3d, grass; 4th, grass; 5th, grass; 6th,

6th, wheat; and, in the second course, he recommends turnips to be substituted in place of plain fallow.—For strong soils, 1st, fallow; 2d, potatoe oats; 3d, grass; 4th, grass; 5th, wheat.

These rotations show a strong propensity for wheat crops, at the same time that the preparation, particularly according to Mr Dudgeon's plan, does not appear to be the most favourable. Breaking up land after two crops of hay, giving it three furrows with dung, and sowing wheat, was a favourite system in this county for many years, as it afforded an opportunity of forwarding a part of the wheat seed before the other grounds could be got at; but it was long ago abandoned as unprofitable. Sowing wheat on clover lea, after one crop of hay, has, for some years past, been much practised in several districts. I never approved of the system, and as yet see no cause to be of a different opinion. Oats, in general, are much more productive. Without the aid of dung, they will yield three bolls for two that can be gained from wheat, even when the ground has been well manured, and when manure is withheld, the produce of the oats will double that of the wheat, whilst the land will be in better condition for succeeding crops, the dung being applied after the oats. As the oat crop is for the most part as good after one year's grass, as after two or three years' pasturage, it appears that land, especially when exhausted, is little benefited by being kept for that time in grass, and that it might be rendered much richer by a judicious mode of cropping and consuming the produce. In this view of the subject, I would propose, that in the 2d year wheat or oats be taken, as best suits the soil; that in the 3d year, the grass should be consumed green by cattle, except such a portion of it as may be necessary for winter provender; that oats be taken in the 4th year, when a weighty crop may be expected; that in the 5th year the crops should be tares, turnips, yam potatoes, cabbages, &c. all to be consumed in the house. In the 6th year I would recommend bear or barley, with grass seeds, which generally thrive better with these grains, than on a winter furrow; in the 7th year, that the grass be consumed as in the 3d year; in the 8th year, oats; and, in the 9th year, green crops, such as tares, turnips, &c. to be taken early off the land, if wheat is to follow; and, indeed the land will be in better condition for that grain than if it had been pastured for three years, from the great quantity of manure obtained from the numerous green crops consumed in the manner above mentioned. On strong soils, perhaps, it may not be practicable to carry the system of green crops and house feeding to the same extent, and with the same advantage as on light ones; yet, as it is such a powerful mean for making and amending manure, it should be pursued as far as circumstances

stances will permit. Sown grasses can be raised with equal advantage on strong as on light soils; only they should be sown with bear or barley, rather than wheat. The rotation should be, 2d year, bear or barley, with grass seeds; 3d year, cut grass; 4th year oats; 5th year, tares, yam potatoes or cabbages, as may be most suitable to the soil; 6th year, barley with grass seeds; 7th year, cut grass; 8th year, oats; 9th year, tares, potatoes, &c. which may be followed with wheat, as the ground will then be in better condition for producing that grain, than if it had been pastured for the two preceding years. By a rotation of this nature it appears, that in the course of nine years, not only more grain and fat will be furnished for market; but also more manure got for enriching the soil, than can be obtained from the rotation suggested by Mr Dudgeon.

That your useful work may long continue to be the mean of exciting enterprise and improvement in a profession of so much importance to the country, is the earnest wish of, Sir, yours, &c.

Mid-Lothian, Dec. 1807. T. S. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Management of Bees.

SIR,

I OBSERVE, in vol. III. p. 239. of your Magazine, that bees are considered as an unprofitable concern in an uncertain climate. No doubt, the weather is less changeable upon the Continent than in Britain, and, of course, more fit for the production of honey; but as I am of opinion that the failure of bees in this island is, in general cases, owing more to mismanagement, and the scarcity of the most necessary of all flowers, viz. the heather blossom, than to the irregularity of the climate, I take the liberty of giving you the following account of my mode of managing this useful insect, which I hope will not be unacceptable to your numerous readers.

About twelve years ago, I purchased a few hives, and, though situated in a high, and rather cold district of the county of Cumberland, I have uniformly found them profitable. I generally keep about sixteen hives, and seldom does one of them perish in winter. I deviate, indeed, a little from the mode recommended by Mr Bonnar, in his treatise on bees; for, instead of round straw hives of one piece, I generally use square wood boxes of one, two, and sometimes three pieces, which enables me to add to a weak hive, or take honey from a strong one, at any time in summer. The boxes are made of fir plank, 10 inches square in the inside, and 6 inches deep, with three braced laths indented into the top of each box, small interstices being left for the bees to

pass

pass from one box to another. Two small round sticks are passed in a transverse direction to the laths, and about two inches below them, which serve to support the combs which are fixed to the laths, and in the same direction with them. The upper box is covered with a piece of square plank, which is occasionally taken off when a comb or two, or even a whole box, of honey is wanted. When only a small quantity is to be taken, I give the supporting stick a twitch round in order to free it from the comb, after which the lath, with the comb, is taken out, and, another being immediately put in its place, the bees soon repair the breach; but, when a whole box is wanted, I put a third box below the other two, and, gently lifting up the uppermost, which will generally contain 15 or 16 lib. of honey, I place it in a chair about a yard distant from the front of the hive. I then force the bees from the box that was taken off, by blowing upon them with a pair of bellows, or sweeping them with a bunch of feathers; and, being thus disturbed, they soon betake themselves to the new box, and set to work as busily as if nothing had happened. I always prefer the middle of a warm day for performing any operation about bees, as they are less apt to sting at that time than in the evening or morning. The market price of honey comb in this neighbourhood is about one shilling per lib.; and, *communibus annis*, I reckon the profits of my hives, on an average, at twenty shillings each. In a warm and favourable season, I have taken 67 lib. of comb from a single swarm; but when the summer happens to be cold and backward, some of the hives yield no swarms, and, of course the quantity of honey is greatly curtailed.

I must not forget to mention, that, about two years ago, large tracts of heather in this neighbourhood did not vegetate in the spring, but entirely rotted out, to the great injury, not only of the bees, but also of the sheep and moor game; and that this took place, particularly where the moors were wet, and the moss incumbent upon stiff blue clay. Will be happy to learn, through the channel of your Magazine, if the like occurred in any other place, and to be informed of the cause of it. I am, Sir, yours, &c.

J. D.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Perth and Fife Canals.

SIR,

FROM the amazing increase of population, it becomes an object of the most momentous consequence that every useful art, necessary for its existence, should have a progressive extension. Under this impression, I was lately much gratified by

by Captain Fraser's description of the intended Perth canal, and the plan suggested by Mr Headrick for extending it to the Forth.

The great national system of navigation extends our power, our commerce, and our population from pole to pole; and from the facility it affords to communication, it as it were annihilates all distance. But the expense of land-carriage is such, as to become an almost insurmountable barrier to the improvements of the internal parts of the empire. The small canal system has removed this wherever it has been adopted, and opens a communication betwixt fellow-subjects, who, living at a distance of thirty or forty miles, were in fact as effectually barred from all commercial intercourse as if they were separated by the Atlantic Ocean. Wherever this system has been adopted, prosperity has been sure to follow.

The Perth canal, by opening up the high lands of Scotland, and connecting them with the very thriving towns of Perth and Dundee, and with navigation in general, will be productive of all the beneficial consequences which are expected from it. The plan of its extension, as delineated by Mr Headrick, through Strathmore and Strathallan, would no doubt enlarge its benefits in a very high degree. It appears however to me, that part of his plan, which would extend it from Loch-Earn to Stirling, is more pregnant with difficulty than benefit, especially as Mr Headrick seems to think it necessary to cut a tunnel for that purpose through a mountain, which would naturally not only occasion an enormous expense, but would require a great length of time to carry it into execution. I hope he will not take it amiss, if I take the liberty to suggest another line of connexion which appears in every respect more interesting and less expensive, and which will combine every possible advantage the canal is susceptible of. The plan I propose is, to intersect the county of Fife from the Frith of Tay, a little below Newburgh, to the Frith of Forth near Methel. It will require a number of locks, no doubt, to overcome the ascent at both friths; but, having reached the summit level, there will be little occasion for any in the intervening country, as the horizontal level may be preserved, by sweeping a line along the south elevation of the Strath by Auchtermuchty and Falkland, and, returning to the eastward, enter into the lowest opening of the south hills, so as to allow the canal not only to be carried through grounds abundantly intersected with rivulets and marshes for supplying it with water, but through a country extremely interesting in its objects, as being filled with coal, lime, ironstone, and other minerals. Were this junction effected, boats could at all times be loaded

with

with the produce of Perthshire and Fife, to pass without unloading to the cities of Edinburgh and Glasgow, thus opening a cheap and easy intercourse betwixt the great commercial cities and towns in the centre and west of Scotland. It will afford the means of interchanging the West India importations of Glasgow with the manufactures of Perth, Dundee and Fife; and of having the fish of the Forth, and the salmon of the Tay, carried alive to market. And it will particularly contribute, in a high degree, to the reduction of the price of coals at Perth, and along the whole north line of the canal. It will also tend to the reduction of the price of lime, by affording the means of bringing it in a manufactured state from the Forth and the inland parts of Fife, and bringing coals for burning the lime at Loch-Earn at a cheaper rate than is done at present. It will afford a centrical point of communication for the sale of the produce of Fife,—convey the goods presently transported by carriers, at a great expense, at a comparatively trivial price,—facilitate the conveyance of travellers and of troops in cases of emergency, and, in short, will form an united whole, equally interesting, useful and brilliant. I cannot leave this subject, without requesting Captain Frazer's indulgence in entering more minutely into the investigation of the actual expense which will be incurred in burning Loch-Earn lime at the town of Perth, by which it will appear that it is by no means so interesting an object as he seems to represent. It is equally unnecessary that he should, as a general engineer, understand the practice of lime burning, as that an astronomer should find it necessary to construct his own quadrant. I shall not for a moment doubt his being able to lay down the limestone at Perth at 6s. 6d. per ton, because he states it as a fact. But he will have the goodness to allow me to calculate the subsequent expense of preparing and bringing it to market, as founded upon the experience of many years, by which it will appear, that so far from being an object of value to the public, there will not be a shadow of profit derived from it by either the proprietor or manufacturer. I beg leave to premise, that the lime measure at Perth is peculiar to itself, and that a ton of limestone does not produce more than two bolls three firlots of lime of that measure. The price of the boll, therefore, at the rate of 6s. 6d. per ton, will be L.0 2 4½

Cartage of limestone and coals to and from the boats, magazines, and drawkilns - - -	0	0	9
Setting, taking out of the kilns, and measuring -	0	0	2
Overseer and clerk - - - -	0	0	1
The price of coals at Perth I understand to be 1½d. per stone, and ten stones are, *ceteris paribus*, necessary for the burning of a boll of lime - -	0	1	9
Carry over	L.0	4	1½

Brought over	L. 0	4	1½
Rent to the proprietor - - - -	0	0	2
Selling, insurance of bad debts, and uplifting money	0	0	1
Loss by ill burnt stones, and interest of money -	0	0	0½
	L. 0	4	5

In addition to this, I beg leave to state, that in order to carry on a plan of such extent, not fewer than 500 quarrymen will be necessary, and at least 60 or 80 horses, perhaps more. These will require about 600 houses. Suppose each house to cost 30*l.*, a previous outlay of 18,000*l.* will be required. In burning lime for 20,000 acres, say at 40 bolls per acre, the number of bolls necessary will be 800,000, besides what may be wanted for building. As this article is only in demand in the summer months, when the farmer has leisure for carrying it to his land, the time in which it can be burnt with a certainty of sale must necessarily be very limited, more especially as the market will be glutted with lime from this immense additional quantity meeting the competition from Sunderland and the Forth. The shortness of the period requires a greater exertion while it lasts, and 50 drawkilns will not be found more than sufficient for burning that quantity of lime. These cannot be estimated at less than 150*l.* each, being 7500*l.* Carts, horses, quarry tools, sheds, &c. &c. 2000*l.*; making a total of previous expense, 27,500*l.*, the interest of which will add more than another penny to the boll. No rent is stated for the ground occupied by the stones and coals, houses or drawkilns, and nothing for the expense of storing up the stones, which is essentially requisite to prevent the quarrymen from being incumbered with them during eight months of the year. All these, together with the nameless list of expenses incidental to extensive and untried plans, must exhibit a formidable barrier to their being carried into effect, were all competition removed. But when it is considered that the best Sunderland lime is sold at Perth at 4s. per boll, and that the aggregate expense of the Loch-Earn lime is not less than 4s. 5d., without charging a single shilling of profit after the immense outlay necessarily incurred, it must appear in a very discouraging point of view indeed; and I fear that the only tendency of the proposed plan will be, to mislead the proprietors with ill grounded hopes of profit, and to induce farmers to speculate dangerously and prematurely. At the same time, I doubt nothing of its becoming an object of importance to the proprietors and farmers on the banks of Loch-Earn, on a scale suited to the supply of the immediate vicinity of the quarries, and especially

if coals are brought from the coal-pits in boats without unloading.

If that spirit of enterprize which has brought forward the Perth canal, shall prove infectious to the neighbouring county of Fife, I flatter myself a very essential continuation of it might be adopted, by intersecting that county from Newburgh to Methel. The canal would not only pass through the very centre of Fife, and afford every local facility of boating grain, coal, lime, and other produce, but would form the shortest, cheapest, and most valuable connexion betwixt the Glasgow and Perth canals, so as to unite every possible benefit which can be derived from such navigation.

If, however, it shall not be considered as an object of sufficient importance to execute the Fife canal on the same scale as that proposed for the Perth one, still nearly the same benefits may be derived from adopting one on a smaller scale, as is now frequently practised in England, and suited only to boats of 12 or 16 tons, 4 feet wide, and drawing 4 feet water, as three, four, or more of them can be drawn as easily in a line, by one horse, as a single boat of fifty tons would be.

The expense of this would be a mere trifle, considering the importance of the object, as it would not cost half the expense of a turnpike road of the same extent. The length of the canal will not exceed nineteen miles, making an allowance of five miles for the circuitous course it must necessarily have, in order to preserve the level, and save locks. In short, Sir, I flatter myself, that the more the subject is investigated, the more its importance will appear, both as a national object, and one of real interest to the country, and even to private subscribers. I have the honour to be, your most obedient servant,

FIFENSIS.

FOR THE FARMER'S MAGAZINE.

Letter from the President of the Board of Agriculture to the Reverend Mr Rennie, Kilsyth.

Board of Agriculture, 32. Sackville Street, 29th March 1808.

SIR,

THE first part of your treatise on Peat Moss having been referred to a committee of the Board of Agriculture, I have the pleasure to inform you, that it met with their approbation, and that they hope you will be able speedily to complete your inquiries. They have voted you THE SILVER MEDAL OF THE BOARD, in testimony of their approbation; and they have ORDERED THIR-

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ty copies of your Work to be purchaſed for diſtribution in ſuch parts of the kingdom where peat is moſt prevalent, and where your ſuggeſtions may promote its improvement.

I remain, Sir, your very obedient ſervant,

JOHN SINCLAIR, Preſident.

To Rev. Mr Robert Rennie, Kilſyth.

NOTE BY THE CONDUCTOR.

We obſerve, with conſiderable ſatisfaction, that the opinion given in laſt Number of this Work, concerning the merit and ingenuity of the Eſſays on the Natural Hiſtory and Origin of Peat Moſs, by the Reverend Mr Rennie, Kilſyth, is ſanctioned by the reſpectable authority of the Board of Agriculture, as appears from the preceding letter of the Preſident of that Board to the Reverend author. If any circumſtance can accelerate the active endeavours of Mr Rennie to favour the public with a complete copy of his writings which regard Peat Moſs, and, more particularly, to deſcribe the economical purpoſes to which it may be made ſubſervient, we are almoſt ſure that the high approbation of the Board of Agriculture will furniſh the moſt powerful encouragement. To be cheered by the applauſe of a national inſtitution, eſpecially one of ſuch reſpectability, muſt animate the induſtry and abilities of any writer whatever. Nay, more, it muſt ſtimulate him to perſevere, even though the trouble and drudgery of the taſk ſhould be great, till the ſubject in hand is fully diſcuſſed, and the reſult of his inquiries ſubmitted to the conſideration of the public.

In addition to what is ſtated in the preceding letter, we have the pleaſure of announcing, that Mr Rennie is of late unanimouſly elected a correſpondent member of the Board of Agriculture, and that that reſpectable Inſtitution has been pleaſed to urge, in the moſt ſtrenuous terms, the completion of the whole work as ſpeedily as poſſible. We believe, however, that Mr Rennie means to publiſh it in parts, and afterwards to reviſe and correct the whole, in one or more volumes, ſhould his labours continue to meet with the like encouragement from the public as has been conferred on the firſt part. The Third, Fourth, and Fifth Eſſays will therefore ſoon be publiſhed; and we are happy at having it in our power to intimate to our readers the ſubjects to be treated of in theſe Eſſays, and the mode and manner in which they are to be diſcuſſed. The remaining Eſſays (there are eleven of them altogether) ſhall be afterwards noticed.

Essay III. *On the Changes which Vegetable Matter undergoes when converted into Moss.*

§1. What is requiſite to accompliſh this change. 1. Moiſture. 2. That the water be ſtagnant. 3. Poſſeſſed of certain chemical qualities. 4. A low temperature.

§2. The changes which animal matter undergoes in the above circumstances. 1. The causes of these changes. 2. The consequences of them. 3. The residuum.
3. The changes which vegetable matter undergoes in such a residuum. 1. The causes. 2. The consequences. 3. The residuum.
4. The difference of the residuum of vegetable matter in the above medium from that of the atmosphere. 1. Causes. 2. The consequences.
5. That peat moss is vegetable matter which has not undergone the putrid fermentation. Proofs and experiments.
6. The causes of the difference between peat moss and vegetable mould, though formed of similar materials.
7. The causes why peat moss is less inflammable on the surface.
8. How peat moss is formed, and by what chemical process, in its different stages.
9. That every species of moss is capable of being converted into a fertile soil or a rich manure.

Essay IV. *On the Simple and Compound Substances to be expected in Peat Moss. That these are such as might have been expected* a priori.

§1. Carbonaceous matter. 1. Why it may be expected. 2. How it abounds.
2. Hydrogen. 1. That it abounds. 2. More than in vegetable mould.
3. Sulphur. 1. Why it may be expected. 2. Abounds in some mosses.
4. Phosphorus. 1. Many mosses contain it. 2. How.
5. Tanin. 1. May be expected in moss. 2. Abounds in some.
6. Iron. 1. In all mosses. 2. Its combinations in some.
7. Acids. 1. Gallic. 2. Sulphuric. 3. Suberique.
8. Bituminous matter. 1. Materials. 2. How formed. 3. Abounds in some.
9. Alliance between peat. Surturbrand. Coal.
10. Peat convertible into coal. 1. Means. 2. Experiments.
11. Proofs that similar changes are forming under our eye.
12. General conclusions. 1. 2. 3. 4.

Essay. V. *Of the Distinguishing Qualities of Peat Moss. These precisely such as might have been expected* a priori.

§1. Inflammability. 1. In all. 2. High degree of it in some. 3. Causes obvious. 4. These stated.
2. Antiseptic. 1. This quality in all. 2. In some remarkable. 3. Causes obvious. 4. Stated fully.
3. Colour of peat. 1. Nearly the same. 2. Causes obvious. 3. These stated fully.
4. Tenacity and insolubility. 1. All peat, when dried, possessed of. 2. Causes stated.
5. Acidity of peat moss. 1. Universal. 2. Exceeds in some. 3. Causes.

§6. No

§6. No living animal in moss as its mould. 1. Causes of this. 2. Experiments.
7. Moss in its natural state unfertile and unfavourable to vegetation as a soil. 1. Causes obvious. 2. When these are removed it becomes fertile. 3. Means to be used.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Inventas aut qui vitam excoluere per Artes,
Quique sui memores alios fecere merendo.

SIR,

WE live at a period, not only of greater interest in respect to the events which take place upon the political theatre, but more pleasingly interesting than any former epoch, from the rapid and steady course with which we advance towards perfection in agriculture, and those improvements which are calculated to encourage it.

The last 30 years have indeed been the commencement of a new era to Scotland; and a person who left it 25 years ago, will no doubt be very agreeably surprised at the prosperous and handsome appearance, both of the country and of the towns. The time is not remote, when the nakedness of our mountains and vallies was almost proverbial; and our cities, if we except Glasgow, presented little better than meanness and decay. With all our partiality as Scotchmen, we cannot help admitting, that our fathers little understood the art of living comfortably; and those who remember the state of filth, in the midst of which they passed their lives in the towns, can hardly escape some emotions of disgust at the recollection. These days are however past; and perhaps the greatest change which has ever, in so short a time, taken place in any part of the earth, has been produced in general over Scotland.

Those who knew Edinburgh and Leith 30 years ago, can best contrast their appearance and comforts at that period with the present splendid and imposing aspect of the Caledonian capital and its seaport. The mind is almost bewildered in trying to trace the causes of such a change from the excess of meanness to the height of magnificence; and when we survey the country, we are equally surprised by the improvement of its cultivation, and the extent of the thriving plantations which shelter and adorn it in every direction. Had Dr Johnson visited the kingdom in the state it now exhibits, his prejudices would have received little room for triumph; and he would have been forced to withhold his sarcasms.

In proceeding northward from Edinburgh, Perth first attracts the attention. A few years ago, it was an ugly, mean place, with nothing to excite admiration, except the beauty of its situation,

and the grandeur of its bridge. At present, it is one of the prettiest towns in Europe, and displays all the fascination of architecture, and all the elegance of regularity. Aberdeen has likewise greatly increased, both in beauty and population. Peterhead, from a trifling village, has become a handsome town. Every other town in the north has both increased in size, and in cleanliness and beauty; and even Inverness is fast emerging from its dusky hue into regularity and splendour. In every other part of Scotland, similar advances have been made; and Glasgow, so long supereminent in beauty, still, by new exertions, maintains her superiority.

But those improvements which are of most importance to the farmer, are the new roads and bridges, which not only facilitate the labours of the traveller, but must add, in a very great degree, to the comfort of the farmer. Every thing which the farmer requires for the produce of his crop, and every step which he must take for the disposal of it and of his cattle, must be subject to the direct influences of easy or difficult communication; and the richest country, without easy means of communication, must soon yield the palm of fertility and value to districts naturally sterile, but enjoying those advantages. Travelling upon the old lines of roads in the Highlands, was 'pain and woe,' and must have often suggested the idea, that the persons who laid them out were actuated with a rooted hatred to the country. It is impossible to conceive what other cause, except the grossest ignorance, could have induced them to follow the tops of the mountains, instead of the sides of them; and prefer a constant ascent and descent, to the level which the new lines of road follow. The want of bridges, over rapid and deep streams, made all communication very precarious; and little short of absolute necessity will induce a man to run the risk of disappointment, when the reward of success is not both certain and important.

The bridges over the Spey and the Findhorn have been finished for some time, and are both works of the greatest beauty and utility. The noble bridge at Dunkeld is far advanced towards completion; and, united with the superb scenery at that romantic place, will surpass any thing of the kind in Britain. Bridges are soon to be commenced over the rivers to the north of Inverness; so that, in a short time, the whole rivers of the north may be said to present no obstacle to communication; and, in that view, to cease to exist, in the same manner that Louis the Fourteenth imagined the Pyrenean mountains to have been removed. These improvements, and those likewise carrying forward in England and Ireland, are the more encouraging to the lover of his country, from the solicitude which our neighbours the French display in pushing forward similar works, in every part of their empire.

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In some respects, they certainly surpass us in the nobleness of their works; such as, in the grandeur of their public roads, and in the beautiful wharfs which adorn many of their maritime and inland cities; while in bridges and canals they fall far below us. There are very few cities in France which admit of decoration along the rivers, or the sea, which are not rendered extremely interesting by the nobleness of the architecture and the spaciousness of the wharfs. Paris, Bourdeaux, Lyons, Tours, Marseilles, Orleans, and many others, are examples of this. At Orleans, where I resided some time, the fronts of the houses, alone, along the Loire, were uniformly and beautifully constructed by the city, and disposed of with the ground, for the purchasers to add every other part of the building. In this country, this plan is totally neglected; and nothing can exceed the meanness, in point of appearance, of most of our wharfs. Our roads are probably as convenient as those of France; but, in point of spaciousness and durability, they cannot be compared to theirs. France has no bridges to boast of, any way comparable to those belonging to London and Westminster. The bridges of Paris are not of such dimensions as to admit of grandeur in the design. Those of Orleans and Tours are neat; but nowise worthy of the admiration which has been bestowed upon them. At Toulouse, a very plain bridge, of few arches and moderate dimensions, is decorated with a triumphal arch, and an inscription, describing it as the *octavum miraculum mundi*. The *Pont de Saint Esprit*, over the Rhone, is a long, mean-looking bridge. If Bonaparte succeeds in establishing a stone bridge over the Garonne at Bourdeaux, it will indeed be a noble and useful monument of his reign. The Romans have left an aqueduct in the south of France, over the river Gard, to which every other specimen of communication by arches in Europe must yield. I cannot convey any idea equal to the sensation with which this stupendous work inspired me;—rapture, wonder, thoughtfulness, and regret, were all united. The harmony and nobleness of its simplicity; its proud defiance of the ravages of so many centuries; the empires which were brought to maturity, and declined into the imbecility of age; and all the changes amidst the human race, since its erection, poured at once upon my mind. The most venerable edifices of Gothic times have no power over the soul, to be compared to this. We are, by descent and by customs, so united with the authors of these, that the distance of the period of their foundation appears trifling; but works of empires long extinct, and only faintly known in the page of history, lingering upon the face of the earth, entire and majestic, have somewhat of a preternatural aspect. And I am not in the least surprised at the first effect which the ruins in Upper Egypt are said to have had upon the French army, who,

as if inspired with one soul, stood still, and clapped their hands in mute astonishment.

But if the French and their neighbours do not surpass in the grandeur of their bridges, the ingenuity of their inventions may well deserve an imitation, which I do not find we are ready to fall into. The simplicity and utility of their flying bridges (which convey, at once, many hundreds of persons and cattle across the largest rivers, and that by simply turning a helm which makes the vessel borrow an impulse from the current, which acts in sending it across the stream, by means of a block running upon a cable, suspended from two large masts fixed on the opposite banks of the river, and to which block the vessel is attached by a chain or rope) are well worthy of admiration. The bridge of Rouen, which, though paved, rises and falls with the tide, is perhaps unique of its kind; and the different wooden bridges in Switzerland, are wonderful masterpieces of complicated art, and of vast utility.

The canal of Languedoc has received so much praise, that I am not surprised that travellers, expecting so much, should be arrested by contempt, instead of wonder. This is the case in every circumstance where the mind is too much preoccupied, and where the subject is to be admired in detail, and not by the first *coup d'œil*. Considering the period of its commencement, and some of the works belonging to it, this canal is a very noble work; and the bason of Saint Feviole, near Sorcze, where I resided many months, and which supplies it with water, is a curiosity such as is seldom to be met with; and the visit to which, is, I find, mentioned by Marmontel as a part of his life well worth recording. But France must yield to England in the department of canals and bridges. Except the canal of Languedoc, and that which united the Seine to the Loire, there were none, till lately, of any consequence in France. At present we hear of several; and they seem to be carried on with spirit. It would be difficult to give a description of the canals of England, they are so numerous and so well constructed. In Flanders, I find, by Froissart, that canals were common, so far back as the 14th century; but that is so flat a country, that one level was all that was to be studied; and they ought rather to be called large ditches than canals. The munificence of government, in the present reign, has made Scotland the mistress of a canal of larger dimensions than any other country can boast of. The largest canals in Europe can only carry vessels of limited tonnage; but the Caledonian canal is calculated for frigates of 32 guns. It is carried on with great vigour and judgment; and, when finished, will be a noble remembrance of our excellent Sovereign. Those who had an opportunity of knowing the sentiments of the French na-

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tion during the hottest period of the revolution, are best able to appreciate how much the gratitude of a people is to be gained by works which have the benefit of the human race as their basis; and how little all the works of ambition are capable of conciliating the affection of the present age, or of posterity. The civil operations of Henry IV. and of Louis XIV, often stopped the rage of the revolutionists, and extorted involuntary applause; while their fortifications and more dazzling operations only obtained for them the accusation of oppression, and the charge (perhaps false) of preferring their own feelings of ambition to those of their people. I am, your constant reader,

21*st September*, 1807. SEVERUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Property Tax as it affects Farmers.

SIR,

THE public attention of Scotland has been lately called to the consideration of a subject, in which the landed interest is materially concerned, and one not undeserving of notice in a Magazine that professes to be solely devoted to the purposes of agriculture. I would beg leave to contribute my mite to the good cause; and request the favour of you to insert the following thoughts as soon as possible; because it is a common saying, approved by experience, 'It is best to strike the iron while it is hot.'

The subject alluded to, relates to the present mode prescribed for assessing the farmers in Scotland for the property tax. The county of Ayr took the lead in bringing this subject into public notice at a county meeting called for that purpose; and their determination and resolutions being before the public, I shall not repeat them. Only it may be observed, that they were judged to be of such importance, that other counties of Scotland have been called to meet and deliberate upon the same subject.

With regard to this tax, it is difficult to suppose that there can be two opinions upon the subject. If a number of people were to sit down calmly to devise the most partial, unjust, and oppressive mode of assessment of tenants for their tax on profits, they could not have stumbled upon a more effectual one than that presently adopted; for the extent of rent is so far from being a true criterion of a farmer's profit, that, in nineteen cases out of twenty, it is the reverse. There cannot be a principle more obvious to the common sense of mankind than this, that the greater a farmer's rent is, the less his profits must generally be; and to take the half of his rent, therefore, for the amount of his profits, must be absurd in the highest degree. It is the same thing as if we were to measure the extent of mercantile profits by the extent of the transactions in which a merchant may be engaged,—

engaged,—which, every one will be ready to allow, would be most erroneous and unjust; and yet it is hardly so erroneous as the other: for, in the case of farmers, there is no allowance made for capital invested in his farm, nor for the various and accumulating expenses to which he is subjected; all of which, together with his rent, ought to be taken into the account, before a fair balance can be struck, and it can be known what his profits really are.

The evident purpose and meaning of what is called the property tax act, is to assess every man in proportion to his real profits, whatever source they may be derived from; and there is no reason why farmers should not bear their proportion along with other people. They enjoy an equal share of the benefits of protection and security from the British government, with every other description of the community; and it is but fair that they should pay for it. They are willing to pay for it. All they require is, that their profits should be fairly ascertained. There is a great similarity betwixt them and the mercantile, or rather the manufacturing interest. Let the same, or some such assimilating method of assessment be taken with the one as with the other; and the loyalty and patriotism of the farmers throughout Britain, will make them submit to it with the utmost cheerfulness.

And the necessity of the case requires that this should be instantly set about; because the burden is heavier than farmers can possibly bear. It is a burden that must ultimately fall upon the landed interest; and they seem so sensible of this, that they have at last stept forward, and taken up the measure; and it is not to be doubted, that, if they persist in it with zeal and unanimity, they will succeed. It is one of those things that only needs to be fairly and fully represented, to convince any one of the propriety of obtaining redress. But much will depend on the mode of application to the Legislature. By means of the meeting of Royal Burghs, and the Chamber of Commerce, the voice of the mercantile and manufacturing body is at once heard and attended to. What is to hinder the same combined unanimity among the gentlemen of Scotland? There are thirty-three counties in Scotland. Suppose a representative from each should meet at Edinburgh, and concert measures for a joint application to Parliament. This unanimous application would convince the Legislature that their claim was not frivolous. If the claim should be resisted on a first attempt, let it be renewed and persisted in, till the justice of it is understood and acknowledged. Unanimity and perseverance, in a calm and legal manner, cannot fail at last of success.

'*Gutta cavat lapidem, non vi sed sæpe cadendo.*'

I am yours, &c. BENEVOLUS.

BRANCH II.

Review of Agricultural Publications.

An Inquiry into the Extent and Stability of National Resources. By the Reverend Thomas Chalmers, Kilmany. Edinburgh, Oliphant & Brown. London, Longman & Co. pp. 341. 1808.

'I'll sell my cow and get justice,' is a common exclamation among operative agriculturists when they consider themselves injuriously treated; but few of them, after passion subsides, are so foolish as to gratify revenge by putting such a threat into execution. Something of the temper which governs operative agriculturists in the moments of irritation, seems to influence the author of the work now on our table; with this difference, that instead of selling, he is for killing the cow; a resolution which, we confidently trust, will not be sanctioned by the good sense of the British nation.

Unfortunately, it happens that the doctrines inculcated by the Reverend author are somewhat in unison with the politics of the day; therefore, may be listened to by people, who, under different circumstances, would have rejected them at the first hearing. Owing to the present state of the Continent,—to our unhappy differences with America,—and to the several Orders issued in Council since January 1807, foreign trade is much curtailed, and many of the people employed in carrying it on are thrown out of employment, and of course become dissatisfied. To cry down foreign trade, and to maintain that Britain may flourish without commerce, must therefore be topics highly gratifying to those who have either directly or indirectly been the means of placing trade in such a novel situation. With those, however, who consider manufactures and trade as the main props of British prosperity,—who look upon foreign commerce as the great milch cow from whose teats the most beneficial nourishment may be drawn, the object of our author will appear to be neither more nor less than to recommend political suicide. Mr Burke well observed in 1775, when a bill for prohibiting trade with the North American colonies was before the House of Commons, that the measure seemed calculated to destroy what the wisdom of two centuries had been employed in rearing; that the greatest bungler on earth could cut a throat and banish the living principle, but that the most profound philosopher was incapable of reanimating the carcase when once deprived of vitality. The like remark is applicable to trade. Look over the history of the whole world, and say what nation regained the possession of trade after being deprived

prived of it for any length of time. It is needless to quote the cases of Tyre and Carthage, and other ancient governments, in corroboration of this opinion; or to inquire concerning the famous Hanseatic league, under whose auspices the whole trade of Northern Europe was, three or four centuries ago, conducted. Neither need we instance the condition of Venice and Genoa, cities long the marts of eastern and southern commodities, but now hardly known in commercial annals. The shutting up of the Scheld in virtue of the treaty of Westphalia, 1648, ruined the trade of Antwerp; but the expectations entertained that the reopening of the river in 1792 would restore the place to its ancient flourishing state have been completely disappointed. By minor politicians, the reopening of the river was, however, viewed as a grave and solid cause for going to war. These wiseacres did not reflect, that the disposition of the inhabitants was totally altered, and that the capital formerly devoted to trading purposes was either dissipated, or flown to other countries. Hence Antwerp has received but a very partial benefit from an event which, by many people, was considered as insuring a return of its ancient prosperity.

Since the reign of Henry VII., when Cabot was employed to cross the Atlantic and investigate the coast of North America, it has less or more been the policy of every British government to encourage foreign trade. This encouragement was bestowed by planting numerous colonies abroad, by supporting and protecting these colonies at a great expense, by passing innumerable laws in favour of commercial pursuits, and by holding out bounties or drawbacks in assistance of exportation. To the growth of these colonies, the first dawn of British prosperity may be traced. Numerous articles of commerce were furnished from them for supplying the consumption of other nations; and, owing to the navigation laws, laws first enacted during the protectorate of Cromwell, and steadily enforced for a century or more afterwards, a great part of the trade of the world gradually centred in Great Britain. To this increase of foreign trade, must be attributed the rapid increase of our manufactures, notwithstanding of the heavy taxes which impeded them. From the prosperous state of manufactures, agriculture received efficient aid. A demand was created for the produce of the ground, which afforded the most substantial support to those engaged in its cultivation. The scale of population was considerably heightened, and all corners of the island displayed satisfactory evidence, that improvement in every art was going forward with steadiness. In some districts, slender discernment was required to ascertain that improvement was proceeding with the greatest rapidity.

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In this state of matters, when the island in the gross presents the most flourishing appearance—when manufactures, though checked by a partial stagnation of foreign trade, are on the whole thriving and prosperous—when agriculture is fast advancing to perfection—and when the condition of all ranks, from the lowest to the highest, is becoming from day to day more and more ameliorated, are we called upon by the Reverend author of the work under consideration to turn every thing topsy turvy, and to renounce the numerous enjoyments and comforts with which we have been so highly favoured. In short, we are advised to sacrifice manufactures, and abandon foreign trade; to convert our manufacturers into soldiers and sailors; and to burden the agriculture of the country with an immense load of taxes, under which it could not possibly exist for the short space of half a dozen of years. And what is the mighty object to be gained, and for which ruin and misery must thus be hazarded? The ostensible object is, that the country may be saved from the oppression of a foreign foe, though we are inclined to think, that resentment against that foe is in some measure the real one. Three or four years ago, many people entertained serious apprehensions that the contest would be decided on British ground. The good sense of the nation has, however, since returned; and few are now so silly as to imagine, that Britain is in the slightest danger, so long as she is true to herself, and maintains that astonishing preponderance at sea for which she has been so long distinguished. It is pretty plain that the French ruler cannot conquer us; and it is equally clear, that we cannot conquer him. He may lessen our trade, and increase our privations; but these are the sum and substance of what his hatred can accomplish. We, on the other hand, may capture some ships; probably take an island or two; keep his coasts in a state of alarm; now and then burn a town, and possibly bring misery and ruin on the unfortunate inhabitants. But what is all this to the main business? Will such piddling attempts at warfare bring our antagonist to his marrow-bones, or serve to raise us one step higher in the scale of nations than we stand at the present moment? Will we by such means procure satisfaction for the past, and security for the future? No! No!! We may waste our strength, and diminish our resources; but, under existing circumstances, cannot advance one inch nearer to the goal which we are attempting to reach. If war, however, is to be persisted in, we pray most devoutly that the measures recommended by our author may not be resorted to; and in this pious wish, we trust that the great majority of our readers will concur with us.

Having said so much upon the general object of Mr Chalmers, it is now time to examine his statements more particularly.

The

The book is divided into eight chapters, with a conclusion and appendix. The first chapter treats of *the case of a country that carries on no foreign trade.* 2. *Of a country which carries on foreign trade, but is subsisted by its agricultural produce.* 3. *Of a country which has to import agricultural produce.* 4. *On profit and capital.* 5. *On the distinction between productive and unproductive labour.* 6. *On taxation.* 7. *On the effects of taxation upon the labouring classes of the community.* 8. *Consideration of some difficulties and objections.* The conclusion contains a comparison betwixt the present situation of Britain and that of a gentleman's estate on the sea-shore which it was necessary to embank, so as inundation by the sea might be prevented.

In the first chapter the author arranges population in different classes. 1. The agricultural population, which he seems justly to consider as the most useful class. 2. Those who are engaged in providing what he calls the *second necessaries of life*; that is, the people employed in manufacturing raiment, building houses, and providing other accommodations. The whole of the remaining population is thrown into a third class, and characterized in the lump as *disposeable population*; in other words, that part of the population which the state may use in any manner that it pleases. This arrangement seems to be erroneous; and it was with some surprise that we observed, not only landed proprietors, but even the rulers and legislators of the country, classed amongst the disposeable population. Nay more; the officers of justice, the members of literary and ecclesiastical establishments, the practitioners of law and physic, soldiers, artists, manufacturers and tradesmen, are classed in like manner. It might have been expected, that our Reverend author would have kept the members of the ecclesiastical establishment out of this class; and had he even been disposed to regard medical practitioners as a part of the second class, we would not have found fault with him.

We presume, that population may be much more correctly classified, by dividing it into the working, consuming, and useless classes; at least, that every practical purpose may in this way be easier gained, than under the arrangement adopted by our author. According to our views, the first class is composed of those who must earn their bread by the sweat of their brows; and, in a political light, we hold it to be a matter of small importance at what kind of work their bread is earned. The second class is composed of those who are not under any necessity of resorting to corporeal labour for a livelihood; and this class, though not numerous in a new-settled country, is generally an extensive one under every old government. The third class is composed of

of mendicants, idiots, and the like, who, in fact, are a burden upon the other two classes, and of no use to the community. That an arrangement of a different kind has been followed by Mr Chalmers need not excite surprise, seeing that the one we have chalked out would not have answered the purpose he had in contemplation.

That purpose is early developed. He says, in the 12th page,

'The members of the disposeable population do not labour for the necessaries of life;—they labour for those higher accommodations of luxury, which are not essential to existence, and which it is therefore in the physical power of man to dispense with.

'They can, therefore, be recalled from any one employment to any other employment; they can be made to take any direction which the country may choose to impress upon them. This change of employment does not affect their maintenance,—it only affects the direction of their industry; the agricultural population will provide them with the same quantity of food as before; the second division of the population will provide them with the same quantity of the other necessaries of existence; they will have the same degree of comfort and subsistence; and the whole amount of the mischief will be, that temporary inconvenience which attends a change of employment.'

There is certainly a portion of plausibility in what is here stated; though we are afraid, when examined closely, that the sentiment will be found to be rotten and unsound. Whatever direction may be taken by the industry of the disposeable population, no doubt the agricultural population will provide them with the same quantity of food as before, while the second division of population will provide them with the same quantity of the other necessaries. On these points we entertain no apprehension, providing it is ascertained that the new direction which may be taken by the industry of the disposeable population, enables them to pay for the food and other necessaries furnished by the working classes. If the industry of the disposeable population does not render them able to pay for food and necessaries at market price, the question assumes a different complexion. If the industry of that class is to be put into requisition for the public service, then the other two classes would not only be deprived of a part of the produce of their industry, but also be burdened severely, to make good the numerous expenses to be incurred, were the disposeable class so employed. Whether the agriculturist and the artisan would plough and sow, hammer and weave, with the same assiduity, under these circumstances, as they did when sterling money was paid for the food and necessaries which they furnished to the disposeable class, is a question which the author does not seem to

have

have thought of. In fact, were our author's ideas carried fully into execution, the disposeable population would be entirely supported at the expense of the agriculturist and the artisan.

The author considers the proprietors of the necessaries of life as masters of the country, and as rulers over their own landlords, who, it must be attended to, are previously ranked as a part of the disposeable population. We shall use his own words.

'In arranging the offices of a household, and settling the distribution of its servants, upon what principle should the arrangement be conducted, whether upon the will of the master, or the pleasure and convenience of the servants? Is it not for the master alone, to say how many servants shall attend him in the capacity of footmen; how many shall be allotted to the work of the kitchen; how many to the stables, and how many to the care of his garden and pleasure grounds? If he chooses to dismiss so many of his footmen, and add an equal number to his establishment of servants in the kitchen; upon what principle should this change be resisted? Would it not be ridiculous to say, that the footmen must first be consulted? They dislike the work of the kitchen, and cannot think of submitting to this new distribution of employment. If this be the case, all they have to do is to leave the family. The master, with the ability in his hand to give wages and maintenance to an equal number, will soon get other servants to supply their place, and to acquiesce in those new arrangements that are most agreeable to his taste and convenience.

'The parallel exactly holds with the country, considered as one great household, where the proprietors of the necessaries of life stand in the place of master, and the disposeable population in the place of servants. Upon what principle should the distribution of the disposeable population be regulated? Is it not upon the will of the employers; those who furnish them with maintenance, as the reward and encouragement of their industry? Is it not for these employers to say in what manner employment shall be distributed among the disposeable population of the country? and is it not their undoubted right, to recal them from any one manufacture, and transfer them to any other that may be more accommodated to the taste and circumstances of the times? If any of the disposeable population do not choose to acquiesce in this new arrangement, let them leave the country; they cannot carry their maintenance along with them. This remains in the hands of their original possessors; and a new population will soon come forward, to be supported by the redundant maintenance in the new employments to which masters may choose to direct them.' p. 19—21.

We would here remark, that the proprietors of the necessaries of life, *i. e.* the farmers, are always as eager to dispose of their commodities as their servants, *i. e.* the disposeable population, are to purchase them; and that a falling off in the demand would by

by them be considered as a very great evil. The author, in these passages, has certainly arranged the twenty-five letters of the alphabet in a very neat dress; though the arrangement does not seem highly calculated to promote either his own cause, or that of the public. It has been said, that philosophers, in their closets, are very apt to indulge themselves in fantastical speculations, which cannot be carried into execution. The truth of this saying is strikingly exemplified in the above paragraphs.

Our author's opinion of manufactures is at once ascertained from the following passages.

'It is ridiculous to talk of the manufacturing interest, as if it formed an essential part of the system of the country, or as if its overthrow could plunge the nation into the lowest state of helplessness and imbecility. All that a manufacture can do, is to offer its productions for the benefit and enjoyment of those who may choose to purchase them. The whole amount of the mischief sustained, is the loss of enjoyment to the consumers. A value is often attached to manufactures, independently of the pleasure and advantage that they yield to the person who uses them. It is not their subservience to enjoyment, that constitutes their value in the estimation of many a political reasoner. They are looked up to as an original and independent interest, as possessing in themselves some native and inherent ability, and as if the very existence of the country depended upon their prosperity and extension. I maintain, that after you have described the use of their commodities to the private consumer, you have exhausted the enumeration of their advantages. The wear and consumption of him who uses them, absorbs the full effect of all the industry that has been employed upon their production. They expend all their virtue in administering to the pleasurable feelings of the purchaser. The manufacturer himself does not ascribe his wealth to the employment; he ascribes it to the ability of the purchaser. Government ought not to ascribe any part of its revenue to the manufacture, because it lays a tax upon its commodities. It should ascribe it to the same source, the ability of the purchaser. This ability remains, let the fate of the manufacture be what it may. The sole use of the manufacture to Government is, to indicate a road by which it may arrive at the wealth of its subjects. Let the manufacture perish, and Government will only have to devise some new path to that wealth which is permanent and unperishable. The sole advantage of the manufacture, is not to contribute revenue, but to direct Government where that revenue is to be found; and for this petty, subordinate advantage, will our legislators pursue the most ruinous and mistaken policy, turn their attention from the solid wealth and resources of the country, give themselves up to the most womanish despair, because they see symptoms of decay in the manufacturing interests of the nation, and rest a primary importance on what is not the cause of wealth, but its indication?

'It is very strange, that the extension of our manufactures has ever been supposed to contribute to the strength and resources of the empire. All that it possibly can do is, to contribute a more copious supply of articles of consumption. A manufacture can neither give additional extent to our army, nor can it give additional extent to our means of maintaining it. The fact is, that, so far as it goes, it serves to impair the military strength of the country. It engrosses to itself all the natural price that is paid for its articles. It absorbs part of the wealth of the country. It exhausts so much of the ability of consumers; which ability, had it not been expended on the support of the manufacture, might have been expended on the maintenance of an army. This manufacture must have labourers to carry it on, and it therefore engrosses so many of the disposeable population of the country. It keeps them back from entering into the army; and if we have a military establishment at all, it is not in consequence of manufactures, but in spite of them.' p. 54—56.

Now, we really think that Mr Chalmers talks rather loosely with regard to manufactures. Strictly speaking, he seems to entertain very crude notions upon the subject,—notions that can only attract notice because of their novelty. With some people it is foolish to argue; a statement of facts is a better and more convincing way of refuting them; and, on the present occasion, this may be done in the shape of a short dissertation.

The term *manufacture* simply means, the process of preparing, by art, any raw or unfinished article for useful purposes, or for purposes which the article was not calculated to answer when in its original state or condition. The country which contains the greatest number of manufactures, must therefore be the richest and most comfortable, because it possesses the most abundant supply of the means of gratifying human enjoyment, and for supplying the wants of other countries, where manufactures are either unknown, or imperfectly executed. From an export to these countries, it is enabled to import many articles which its own produce does not furnish. Hence its riches are increased, and the enjoyments of its inhabitants manifestly augmented. Without enlarging upon these matters, we may turn to the state and condition of those parts of Britain where manufactures are chiefly carried on. Let us take either Glasgow, Manchester, Leeds, Sheffield, Birmingham, or any town that may be thought of, where manufactures are prosperous; for the like effects have taken place in every one of them. The first thing which strikes the eye, is an immense number of houses, well built, and occupied by a great number of inhabitants. We see the people, numerous as they are, all busily employed; and upon entering into their houses, we are at once enabled to ascertain, that their condition is comfortable and agreeable. If we turn our eyes upon the

the adjoining country, we discern, that improvements are going on upon every spot of soil within the sphere of manufacturing influence; that new villages are erecting on every hand; that elegant villas are building for the accommodation of the rich capitalists; that enclosures are executing in the most approved style; and that the soil is meliorated and enriched in a degree far exceeding what takes place in the vicinity of other towns, where manufactures are neglected. Now, what is the inference that must follow from the consideration of these circumstances? Assuredly it must be, that manufactures are a source of wealth to every nation where they are exercised; though our author attempts to make us believe, that a bellyful of meat and drink is the alone *summum bonum*, the alone kind of comfort that deserves to be regarded. Meat and drink, to be sure, are very necessary articles; but few countries, whose inhabitants have risen above the savage state, are deficient in the necessaries required to continue existence. Not so with respect to trade and manufactures. Few nations have advanced to great prosperity in these points; while some, witness Holland, have carried on a great trade, when their dependence for bread corn in a great measure rested upon other countries. One third, or one half of the people of Britain might perhaps live tolerably well were trade to be renounced; but what would become of the remainder? They must either expatriate themselves, or continue in the country a burden upon those who had fortunately got a share of the tangible property which continued after trade was forsaken or given up. What is worse, the remaining, or solvent inhabitants of the country would be subjected to the whole public burdens formerly borne by the trading and manufacturing interest; while their ability to bear these burdens was lessened in a direct degree with the decrease of trade and manufactures.

Now, as the trade of the towns alluded to has so much increased the prosperity of their vicinities, let us inquire concerning what would have been their probable state, had they remained without trade and manufactures, or even had trade and manufactures been confined to articles required for home consumption. In the *first* place, it is plain that almost one half of the inhabitants would have wanted employment; and, by consequence, every one of these towns would have contained one half fewer houses than at present: In the *next* place, it is equally certain that the conterminous country would have been far less improved, because the means of accomplishing that improvement would have been wanting: And, in the *last* place, it appears that the aggregate wealth of the country would also have been proportionally inferior to what it is at this moment. Glasgow, for instance,

without foreign trade, might possibly have been a little richer, and more populous, than what it was at the union of the two nations; but, without that amazing extension of trade, which has principally occurred since 1750, that city could not, under other circumstances, have reached to its present state or condition. In fact, every additional house, every additional inhabitant given to Glasgow, is an additional instance of the increased prosperity of the country; and the wealth of these additional inhabitants, whether it consists of money, live stock, houses, goods, machinery, or whatever it be, is so much more wealth to the country than would have been within its bounds, had trade and manufactures not been introduced, and successfully carried on.

In this view of the matter, the manufacturing interest must be considered as a strong and able prop to the prosperity of the country, though we acknowledge that it is not so strong, nor so much to be depended upon, as the agricultural interest. Agriculture is a permanent business, which cannot be relinquished. Manufacture, on the other hand, is fluctuating and unsteady. Still, this difference does not lessen the relative value of manufacture during its prosperity. Strictly speaking, the growing of corn is a manufacture as well as the weaving of cloth; and the only difference which a true economist will recognize is, that, by the one manufacture, food is provided for the belly, and, by the other, clothing is provided for the back. Both manufactures are alike conducive to the public welfare. Those engaged in carrying them on, are of equal advantage to the country, either as contributing their share of public burdens, or as serving by the articles which they manufacture to augment the capital stock of the state. To retrench in the consumption of the articles manufactured, can never be a gain to the public interest. In fact, retrenchment is a loss, in exact proportion with the degree in which it takes place.

It is really wonderful to hear any person calmly maintain, that 'a manufacture can neither give additional extent to our army, nor additional extent to our means of maintaining it.' Both these positions are totally unfounded, and contrary to fact; for, in the *first* place, three fourths of the army are always enlisted in manufacturing towns; and, in the *second* place, those engaged in manufacture, contribute to the public expenses, precisely in the same way, and to the same extent, as is done by individuals of other classes. With the exception of a land-tax, and even of this tax every corporate town bears a share, there is not the slightest difference between the taxes which are levied upon the manufacturer and the agriculturist. So far as respects articles of consumption, the manufacturer may be said to be taxed more severely

severely than the agriculturist, because his means and abilities to purchase these articles are generally of greater extent. We are aware that the author may reply, that it is not the manufacturer, but the purchaser of the goods which he manufactured, that paid these taxes. But were we replied to in this manner, our answer would be, that the grower of corn, and the feeder of beef, are exactly in the same situation with the cloth-weaver and cutler; and that if the weaver and cutler did not pay taxes, so neither did the grower of corn, nor the feeder of beef. In fact, the taxes of the latter are as much paid by the consumers of their produce, as the taxes of the manufacturers are by those people who purchase the several articles which they manufacture.

The second chapter treats of the case of a country which carries on foreign trade, but is subsisted by its own agricultural produce. In this chapter, many arguments, used in the former one, are, in substance, repeated; and once, for all, it may be remarked, that the arguments used through the book, are often not in unison with its running title.

Our author says, 'If we could succeed in proving that foreign trade is upheld, like home manufactures, by an antecedent ability which exists in the country, it would be attended with the overthrow of a thousand prejudices. By some unaccountable perverseness of conception, it is supposed that every commercial country depends for its prosperity on the custom of its neighbours; and that its very existence is linked with its foreign connexions. It is apprehended, that the stoppage of foreign intercourse would be attended with something far more dreadful and alarming, than the loss of certain enjoyments, which the productions of other countries afford; that an immense source of wealth would disappear from the nation; that the land would be filled with bankruptcy and ruin; that the public finances would run into disorder; and that, unable as we were to maintain our naval and military establishments, we would fall a helpless and unresisting sacrifice to the power of an invader. Happy, if I can succeed in demonstrating, that these gloomy anticipations are unfounded, and, by pursuing the destruction of foreign trade into all its consequences, can satisfy my attentive reader, that the whole amount of the mischief is the loss of certain enjoyments, or rather the exchange of one set of enjoyments for another; that the stamina of the country remain entire for all the purposes of defence and security, and political independence.' p. 66, 67.

There is not the slightest doubt, but that foreign trade, like home manufacture, is upheld by an antecedent ability which exists in the country, because neither manufactures nor trade, nor even agriculture, can be carried on without capital stock. But we apprehend that the antecedent ability does not lessen nor detract from the advantages which it accomplishes; nay, on the contrary, that it rather furnishes an argument for carrying on

trade more extensively. But let us inquire into the state of Britain when foreign trade was originally undertaken, which inquiry will furnish us with surer *data* to reason upon, than can be gathered from other sources.

The first foreign trade of Britain consisted in the export of wool; and this trade convincingly proves Britain to have been at that time destitute of the ability to work up wool into cloth, otherwise it would not have been exported into other countries. Very little, either of manufacture or trade, prevailed till the reign of Queen Elizabeth, when, in consequence of many Flemings having settled in the country, manufactures were partially introduced, and a small foreign trade undertaken. These beginnings were made with small capitals; but, being followed by success, the adventurers were encouraged to invest their savings in the same concerns, and to extend the particular manufacture or trade which they carried on. This was the origin of manufactures and trade; and by such means as we have pointed out, were both brought to their present pitch. The antecedent ability of the country to uphold trade two hundred years ago, was very weak indeed. It is at this time of great power, and capable of going through with any measure, which relates either to manufactures or trade. Were our author's suggestions however adopted, this ability would be gradually weakened, and, at last, be completely lost. We will not say that Britain would return to the state she was in when Elizabeth reigned, though we maintain with confidence, that her national strength would be impaired considerably, and that in a very rapid manner. The internal or natural resources of Britain, are not to be compared with those of many other nations. Her strength arises almost entirely from external or artificial means. These our author wishes to lop off, and to place Britain exactly in the same condition that she was in before manufactures and trade were introduced.

The manufacturers of Britain have, for many years past, been contending for liberty to import grain duty-free from foreign countries, thinking, in that way, they could be furnished with bread-corn on easier terms than they can procure it at home. Our author, however, who generally sets himself in opposition to experience, seems to think, that corn, being such a bulky article, could not be brought from abroad, without subjecting the importers to an immense disadvantage. He says,

'I before obſerved of agricultural produce, that it was ſuch a bulky and uncarriageable article as to make the conveyance of it very expenſive. Bring agricultural produce from abroad, then, and you maintain your labourers at a much heavier expenſe than in a country where the agricultural produce is ſufficient for the ſubſiſtence of all its inhabitants.

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This ſubjects our manufacturer of exported articles to a very heavy diſadvantage; the grain which he brings into the country is dearer than before by the whole expenſe of its conveyance, and of courſe the price of all the other grain in the country riſes to a level with it; he, therefore, brings his goods to market at a greater expenſe than competitors from other nations, becauſe he is obliged to pay a higher wage to the labourers who are employed in the manufacture of them. In *moſt cases*, it is in vain to ſtruggle with ſuch a diſadvantage. He is underſold: He is forced to break up his concern: He abandons his labourers to the chance of employment in another quarter: They ſeek their ſubſiſtence where it can be found, and are at laſt compelled to acknowledge their dependence on the taſte of our inland conſumers.' p. 81.

Now, were our author to be told, that corn may be brought from every country in Europe, nay, that it can be brought across the Atlantic Ocean, and sold as cheap, if not cheaper in Britain, than in the power of the British agriculturist to raise it, he would certainly feel some regret at having committed himself in such an extravagant manner. There is not the slightest occasion to argue this point; for the corn laws, enacted by the Legislature to protect the home agriculturist, are sure proofs of what we are maintaining. No further back than last year, five hundred thousand quarters of wheat were imported from America into this country; and there is little doubt that we would have been favoured with nearly as much this year, had not President Jefferson interposed an embargo. Allow the manufacturers to import as they please, and they will thankfully accept of that liberty with all its concomitant disadvantages.

The author fights a similar battle in the third chapter, which professes to treat of a country importing agricultural produce. In fact, like Cato, whatever he begins with, an ending must be made with something like *Carthago est delenda*. In this chapter, we find the following passages, which furnish a pretty correct sample of his philanthropy.

'The addition which a redundant population gives to the ſtrength and reſources of a country, is, beyond all compariſon, inſignificant, when contraſted with the addition that is afforded by an equal part of our natural population. It is an excreſcence that may add to the bulk of the body politic, but with a ſmall addition, indeed, to its vigour and activity, and, like moſt other excreſcences, I believe that it is hurtful; that it is pregnant with a thouſand miſchiefs, which the very ſmall contribution that it affords to our revenue can but poorly compenſate for; that it is a load and an oppreſſion upon the country; and an oppreſſion the more intolerable, as it is valued by government; as it misleads the eye of the country from its eſſential intereſts; as it at one time fills the mind of the public with unreaſonable alarm, and at another with unreaſonable triumph and ſatisfaction; as it embarraſſes the councils of the nation, and has diffuſed among us the principles of an infatuated policy.

'It is from this circumſtance that, in the minds of many, the exiſtence of the nation has been linked with the proſperity of its manufactures. When the demand ceaſes abroad, or we are underſold in any of the foreign markets, the ſtrength of the nation is ſuppoſed to be at an end. It is very true, that if there be a redundant population, their employment is at an end. They can no longer obtain an equivalent for their induſtry. This equivalent comes to them in the form of ſubſiſtence from foreign countries, and if that ſubſiſtence is withheld, diſtreſs and helpleſſneſs muſt enſue. There will be a diminution of food, becauſe part of our uſual ſupply was furniſhed from abroad. In other words, there will be an overſtocked population, and that population muſt, of neceſſity, be reduced, either by emigrating to foreign countries; by the diſeaſes attendant on ſpare living; or by the uſual rate of propagation being ſuſpended, in conſequence of the dearneſs of proviſions operating as a diſcouragement to marriage. The *redundant population will, in the course of a few years, be swept from the face of the country;* and the whole loſs ultimately ſuſtained, will be the very ſmall fraction of their income that they yield to the public revenue.

'This is the whole amount of the miſchief, and for this are we to give up the country in deſpair? Becauſe we loſe a poor fraction of the wealth of our redundant population, are we to ſink in terror as if overpowered by a death-blow? Or are we to ſit down in puling inactivity, when the whole energy of our natural population is ſtill before us? No diſadvadvantage in trade, no ſecluſion from the markets of other countries, can effect the entire controul that the nation exerts over the diſpoſeable part of its natural population. Some of them are at preſent employed in working up commodities for exportation, but they are virtually paid by our inland conſumers. If all exportation ceaſes, then all importation ceaſes along with it. The whole amount of the miſchief is the loſs of the imported article; if that article can be diſpenſed with, the ability remains with our inland conſumers to give the ſame ſupport and maintenance as before, to our diſcarded manufacturers.' p. 155-157.

We cannot ſufficiently admire the coolness with which this *reverend* gentleman ſpeaks of ſweeping the redundant population from the face of the country. He absolutely rivals Richard III.

——'Off with his head!
So much for Buckingham.'

The fourth chapter, ſaid to be on Profit and Capital, goes nearly over the same ground. To save trouble we ſhall adopt the following paſſage, inſtead of using any illuſtrations of our own. We muſt, however, add, that the deſcription is ſo neatly and correctly given, that it meets with our higheſt approbation.

'What a ſcene of melancholy and diſtreſs to many thouſands of individuals! How cold-blooded the politician that can ſupport it! Let us have none of this unfeeling hardihood! Let us away with this mercileſs ſpirit of innovation! Let it be baniſhed to the cheerleſs ſolitude of a calculator's boſom. It may amuſe him, but it will never, never,

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do in practice! Let us ſpurn at his theories, and perſevere in the good old way of our forefathers.' p. 183.

In the fifth chapter the author labours at great length to ascertain what is wealth, though we believe few people are much at a loss to ascertain what constitute either poverty or riches. He does not think that the quantity of agricultural produce furniſhes a correct criterion for ascertaining the wealth of a country. A correcter estimate, in his opinion, may be found by the extent of the disposeable population; though, as this class, according to his original classification, contains all the idlers or people not engaged in productive labour, the correctness of such an estimate may reasonably be questioned. But mark the use to which the disposeable population is to be applied, and the author's opinion will not be esteemed altogether so ridiculous. It is from the disposeable population that soldiers and sailors are to be drawn; and in these capacities, he thinks, the whole disposeable population ought to be employed. The horrors of an invading army appal his mind so dreadfully, that he would sacrifice every thing to gather a force together which the whole wealth of the country could not support. On this point we shall explain ourselves afterwards.

The sixth chapter is on taxation. In this chapter the author seems displeased with the present system of taxation, which he considers as not going far enough,—and sagaciously maintains, that taxation is not carried half so far as it might be. In fact, he thinks that so long as any income remains with individuals, the means of taxation are not exhausted. It gives us pleasure to observe such a display of generosity, especially as we trust it will prevent the author from joining with those of his brethren, who seem determined, right or wrong, to claim exemption from every direct tax. Here we are reminded of the saying of a celebrated English dignitary to King James VI. Two bishops having waited on his Majesty, he was pleased to request their opinion, whether he could levy money from his subjects without the consent of Parliament? 'Most certainly,' replied the forwardest of the two, 'for all our goods and wealth are at your Majesty's disposal.' The other was rather shy in making answer; but, when urged by the King, he replied, 'I do not know whether you can legally take my money without consent of Parliament, but believe you may take my brother's, because he has freely offered it to you.'

We are better pleased with the seventh chapter, at least with that part of it which descants upon the impropriety of taxing the lower ranks in a direct manner; though, even here, the author must mount his hobby, and take another scamper at the expense of the manufacturing interest.

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'I would aſk thoſe who look up to trade and manufactures, as the creative ſources of a nation's proſperity,—I would aſk them to tell me, what is the purpoſe of trade and manufactures, and what is the amount of their uſefulneſs? I would aſk, what, in the name of wonder, is it that they do, more than provide certain commodities for the enjoyment of thoſe who are able to purchaſe them? Tell me, what more a buckle-maker does to his country, than produce buckles? You may ſay, that he forms part of the manufacturing intereſt of the country; but go in detail over all the particulars of which this manufacturing intereſt is compoſed, and name me, in ſucceſſion, every trade and every profeſſion which it embraces: You ſhall find that the whole amount of the advantage is, that each furniſhes his own article for the enjoyment of cuſtomers. The uſefulneſs of a carpet-manufacturer, conſiſts in making carpets. The whole amount of the uſefulneſs of a watchmaker is, that he furniſhes his cuſtomers with watches. We have extenſive potteries; but the ſum total of their importance to the country is, that they furniſh it with ſtone-ware. Go over every item of this great manufacturing intereſt, and you ſhall find, that the whole ſum and ſubſtance of its uſefulneſs, is to adminiſter to the taſte, and convenience, and luxury of conſumers. It is not fair to make the maintenance of the labourer, or the profit of the ſtock-holder, enter into the eſtimate. It is not the manufacture that furniſhes either profit to the one, or maintenance to the other. It is the ability of the conſumer. The buckle-maker lives not upon his buckles, but upon the price that is paid for them. The watchmaker lives, not becauſe he makes watches, but because he has cuſtomers that are willing and able to purchaſe them. It is neither trade nor manufactures that give maintenance to ſo many millions of the population of the empire. It is the ability of thoſe who purchaſe the articles which trade and manufactures lay before them. Where, then, is the mighty miſchief that is produced by withdrawing the wealth of the country from the ſupport of trade and manufactures? The whole amount of the miſchief is, that you loſe certain articles of luxury and convenience. The man who is veſted with the ability of purchaſing theſe articles, chooſes to abandon the uſe of them, becauſe the higher intereſt of ſecurity demands the ſacrifice. Neither the maintenance of the manufacturing labourer, nor the profit of the manufacturing capitaliſt, ſhould be ſuffered to affect the determination of the cuſtomer. This maintenance is ſtill in reſerve, to be given to the diſcarded population in the form of wages for their ſervice as ſoldiers; and this profit is ſtill in reſerve, to be given to the diſcarded capitaliſts, in the form of a genteel income for their ſervice in the higher branches of public employment. Let it take this new direction that is called for by the circumſtances of the country. The idea of withdrawing the wealth of the country from the maintenance of productive induſtry is a mere bugbear. The induſtry of our manufacturers is productive of luxury. The induſtry of our ſoldiers is productive of ſecurity. The one is certainly as worthy an object for wealth to be expended upon as the other, and

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let it be expended with equal liberality; for why ſhould thoſe brave ſoldiers, who labour for the protection of every thing that is valuable in life, be worſe paid than thoſe labourers who carry on the trade and manufactures of the country?' p. 286-288.

There is not a little ſophiſtry in the above paragraph, but the task of detecting it is not a difficult one. Manufacturers certainly do not do more than provide commodities for the enjoyment of those who are able to purchaſe them; and pray does the cultivator of the ſoil, who grows corn and rears cattle, do any other thing? It may be replied, that the cultivator of the ſoil deals in articles that cannot be diſpenſed with, whereas the buſineſs of the manufacturer is to provide for luxury and ſuperfluous enjoyment. We ſhall, for argument ſake, admit the comparison to be correct, but muſt inſiſt, that both trades are equally neceſſary to enſure national proſperity. Though the greateſt part of manufactured goods cannot be reckoned in the light of articles abſolutely neceſſary, yet the ſale of any one of them is of general advantage. The money of the rich and affluent is given to the manufacturer, who conveys a part of it to the growers of corn and the feeders of beef. These, again, pay a propo.tion of the money received for their commodities to the proprietor of the ground under whom they hold poſſeſſion, which enables him to continue his dealings with the merchant and manufacturer. Withdraw the latter from the circle, and in what way will the two others be enabled to live and carry on buſineſs? The cultivator might have a bellyful of meat, but he would be without money to pay either rent, or labour, or taxes. If the proprietor took his rent in kind, he might enjoy the ſame extent of meat and drink; but, in other reſpects, he would be without money for neceſſary purpoſes. He would be in no better condition than the barons of feudal times, who feaſted and rioted in their caſtles when their pockets did not contain a ſingle halfpenny.

But the moſt curious circumſtance, and one not eaſily accounted for, is that, whilſt our author is for diſcarding trade, he, at the ſame time, is not only for throwing all the old taxes upon those who in conſequence would be without money, but alſo for impoſing additional burdens upon them, to an undeſcribable amount. Were his half million of manufacturers arrayed as ſoldiers, twenty-five millions of new taxes would be called for, in order that theſe ſoldiers might be fed and paid, while the poor-rates, high as they are, would be augmented prodigiouſly, by aſſeſſments for ſupporting the wives and families of theſe ſoldiers. One half of the country would, in fact, be working or contributing for the other half. We beg pardon; the working or contributing claſs would be utterly unable to meet the burdens which would

would fall upon them: hence the country would be ruined, and misery entailed upon every one.

Some good sentiments are offered in this chapter respecting our present army, and the encouragement which ought to be bestowed upon the defenders of the country. In these sentiments we cordially coincide with Mr Chalmers, who, in this particular, seems to entertain views much more liberal and correct, than those lately delivered in a certain house by a dignified personage. Make the situation of a soldier respectable, and there will not be any want of recruits to fill up every vacancy.

The eighth chapter presents us with a consideration of some difficulties and objections, which no doubt is strongly called for; but, instead of removing difficulties and answering objections, the author entangles us among fresh difficulties, and furnishes cause for making additional objections. We shall quote the leading paragraph of the chapter, which contains a pretty distinct view of the doctrines inculcated through the whole book.

'The end of all our discussions is to prove, that a much larger proportion of the wealth of the country may be transferred to the augmentation of the public revenue, and that, of course, a much larger proportion of the population of the country may be transferred to the augmentation of its naval and military establisments. We have attempted to pursue this system of extending the public revenue into all its consequences, and have arrived at a result, far more innocent and gratifying than has ever entered into the conceptions of those who talk of nothing but the misery of taxes, and the intolerable burden of the public expenditure. To those who talk of government grinding the faces of the poor by its impositions, we oppose the conclusion, that the labouring classes of the community are completely beyond the operation of taxes, and that government can only controul the distribution, but not the wages, of industry. To those who talk of the ruin of our trading and manufacturing interests, we oppose the conclusion, that the people, discarded from their former employments, will instantly be translated into the same maintenance and revenue as before, from the proportional extension of the naval and military interests. To those who talk of the impoverishing influence of taxes, we oppose the conclusion, that the whole amount of the mischief is the loss of luxury, and that this loss is nobly compensated by the higher equivalents of security and independence. The whole amount of the consequence, in fact, is to the disposeable population a change of employment, and to the proprietors of the disposeable income, the exchange of one advantage for another.' p. 295, 296.

The precise meaning of this passage is, that the disposeable population of the country should be compelled to take up arms, and that the whole of the public burdens should be thrown upon the other two classes, whom he has distinguished as engaged in agriculture,

agriculture, and providing the second necessaries of life. Perhaps the author may contend, that we have mistaken his meaning, and that the spirit and bent of his work is to instigate the rich to lay aside their luxuries, and to pay the value of them to the government in the shape of taxes. Were he to take up such ground, or offer a defence such as is mentioned, it might be replied, that the interpretation given of his meaning is strictly correct, and perfectly in unison with the doctrines inculcated; and that, if his results and conclusions differ with his premises, the fault lies with him, not with us. But we may admit any meaning which he is pleased to give, and still be able to demonstrate, that the measures contended for are neither practicable nor consistent with the state or condition of the British nation.

We have shown already, that the riches or wealth of one class of society depend very much upon the labour or trade of another; and that, if trade or commerce were either lessened or abandoned, the wealth of the whole community would thereby be considerably curtailed. Now, let us suppose, that the disposeable population (which, for argument sake, shall here be restricted to half a million of manufacturers) were all employed in bearing arms, and that the agriculture of the country went on in its usual way, which it might do for a certain time, because these manufacturing soldiers would consume as much food as when working at the hammer and loom, the first consequence would be, that twenty-five millions of money are required for the payment and subsistence of this immense army. The second, and no less obvious consequence, would be, that new taxes would be required to make up for those formerly paid by the manufacturers, who, in our author's agreeable language, had changed employment. It is difficult to estimate what might be the amount of these taxes; but if we take as *data*, that the present taxes amount to five pounds Sterling upon every man, woman and child within the island, and that the number of those who had changed employment, including their women and children, would not be short of two millions, it may be estimated, that ten millions of new taxes would be called for, over and above the twenty-five millions for the pay and subsistence of those who had changed employment. Now, the taxes at present rather exceed, than fall below, sixty millions; and if twenty-five millions are added, there would be a total of eighty-five millions—a sum far above the rental of the whole landed property in the island, though proposed to be levied upon the luxuries of those who are in possession of that property.

The author may say, it is the luxuries of the rich, whoever they are, that I call to be given up; and that many people are rich

rich who do not possess land. We admit this to be the case under the present system; but maintain, that none could be rich were trade abandoned, except the landed proprietor; and that, even then, he would be poor, comparatively with what he is at the present period. The fault of our author is, that he never considers the whole bearings and consequences of a measure. He argues as if the present situation of things were to remain, without reflecting that the state of society would be completely changed; and forgets that industry would soon slacken, was it recognized as a principle, that the whole fruits thereof, a bellyful of meat and drink excepted, were at the disposal of government.

But were the public to be taxed to such an extent, as to make it necessary to lay every luxury aside, the revenue of the country would not thereby be increased in the way and manner which our author imagines. Let us just investigate what would happen in the case of one luxury, though the like result would happen with every one of them. We shall suppose, that, in consequence of increased taxation, the people of Scotland are obliged to give up the use of whisky. The quantity of this article used, is from three to four millions of gallons; and the duty levied thereupon is from seven to eight hundred thousand pounds yearly. Now, were government to levy such heavy taxes, as to compel the people to renounce the use of whisky, it is plain that the revenue yielded by the article would be altogether lost, whilst the barley crop would remain unconsumed, and the farmer be rendered unable to pay either his rent or his taxes. As for the distiller and his working people, the author would soon find employment for them, though in a way which would only add to the public expenses.

It is unnecessary to follow the author further on the subject of luxuries. It is plain that, were luxuries given up, there would remain nothing to tax, except land, and the articles which it produced. It is known from the Property-tax, that the whole land of Britain does not pay a rent exceeding fifty millions *per annum*. Now, goverment might tax as they pleased; yet it is evident, that a revenue could not be raised from land equal to the national expenditure. Were government even to take the whole landed property of the island into their own hands, the value thereof would be insufficient to defray the expenses of the public. From these things it may be seen, what sort of an economist our author is; and from them the extent of his practical knowledge may easily be appretiated.

It is highly probable that the author will never be Chancellor of the Exchequer; but, should he be destined to fill that import-

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ant office, he kindly warns us beforehand concerning the steps which will then be taken.

'Were I minister of Great Britain, I would tax the country up to the fullest measure of the public necessities; and though the voice of obloquy arose from every corner of the empire, I would brave it. He stands there, not as the guardian of our luxuries, but as the guardian of our independence. If he cannot gain our concurrence, he should command it; and if he cannot command it, he should retire from the care of a people who are unworthy of him.' p. 306.

The author forgets, that, in a popular government like that of Great Britain, more people are to be consulted in the laying on of taxes than the minister of the day. What he means by the minister *commanding* our concurrence, we are at a loss to ascertain. It is truly wonderful that such expressions should be used in a book professedly written to rouse the people to defend their constitutional liberties. The inconsistency is so remarkable, that we could not avoid noticing it.

But the inconsistency of the author is in no part more remarkable than in the following passage. After having again and again asserted, that trade was of no use to the country, and urged us a thousand times to forsake and give it up, he says—

'We allow, that trade is necessary to bring money into the country, in the same way that it is necessary to bring wine or oranges, or any other foreign commodity into the country. To pay for this money, this gold and silver which go to the support of the circulating medium, you must continue to work up commodities, and employ so many thousands of your population for this purpose. The gold and silver will come into the country as before, in sufficient quantity for all the purposes of circulation.' p. 318.

We wished to have examined the conclusion with some attention, and to have pointed out the sophistry of the arguments there used, but our limits being already far exceeded, we must content ourselves with one or two desultory observations. An embankment upon the sea coast is not exposed to any danger during calm weather. It is only when storms and tempests prevail, that danger is to be dreaded, or repairs rendered necessary; therefore, was calm weather to prevail constantly, no necessity for making repairs could ever arise. If these remarks are applied to the case of a nation, and peace and war considered as synonimous terms with calm and tempestuous weather, the inference is obvious. During a storm, the owner of the embankment would, with uplifted hands, devoutly pray that the elements might be quieted, and his embankment preserved; but, he would deserve to be considered as a madman, were he to petition for a continuation of the tempest, seeing that the embankment might thereby be destroyed, and his estate be inundated. Precisely in this way would we consider

consider the case of peace and war. Like good weather, peace is always desireable; whilst, like storms and tempests, war is always at variance with human happiness. As the owner of the estate would pray for a cessation of storm, so ought the economist to wish for a termination of hostilities. There does not seem to be any insuperable barrier against the return of peace. Those who have attentively investigated the negociations of 1806, are satisfied that an honourable peace might then have been made, had not a desire to serve Russia and Naples preponderated in our councils. Be this as it may, we are quite satisfied that Britain is exposed to greater danger from a continuation of the war, than from a cessation of hostilities; and, had our author been expressly employed by Buonaparte to accelerate the ruin of this happy island, he could not, in our opinion, have fallen upon a more effectual way to gratify his employer, than by writing the book which at this time has occupied our notice.

Though our limits are already far exceeded, we cannot avoid adding a few general remarks, and with them shall conclude this examination.

In the *first* place, as Britain, under the influence of the present system, has reached a pitch of prosperity far exceeding that of any other nation, the utmost caution should be used when determining upon measures, however plausibly recommended, which ultimately may affect the welfare of the social body, whether considered in its rural, manufacturing, or commercial capacity. These branches of national industry, are so closely entwined, that an injury done to one of them, must less or more be felt by the whole. Each of them is beneficial to the state; and the accumulated benefits flowing from them are the real causes of British prosperity.

Secondly, As the taxes or public burdens of Britain are of great amount, and as, upon their productiveness, the stability of government very much depends, every measure should be avoided which may tend to abbreviate the sources whence these taxes are gathered. In particular, as the safety of the British Empire would be endangered, were the slightest blow given to public credit, strict care that the sources of revenue are not drained or cut off, becomes a primary duty with every person who feels an interest in maintaining our national prosperity.

Thirdly, As the taxes of Britain, with one or two exceptions, are levied in a very equitable way, falling upon every person almost in direct proportion with his ability to sustain them, it would be unwise and impolitic to increase any of these taxes to a height which might oblige the public to renounce the use of the articles so taxed. An excessive taxation of this nature, while it apparently

apparently increased, would in fact diminish the amount of the national revenues considerably. It would dry up the sources whence revenue flowed; and, by throwing out of employment, those formerly engaged in preparing or manufacturing the article or articles given up, would lessen the number of the people from whom taxes are collected.

Fourthly, As the military system is neither of a nature nor complexion greatly calculated to promote moral happiness, it becomes a question of considerable importance, whether that system is not already carried to a length which in time may occasion a material change in the national character. A camp may, no doubt, be viewed as affording the like encouragement to trade, as is furnished by a town or place where a concourse of people is assembled; but, viewed in another light, the assemblage at a camp, cannot be estimated as adding either to the riches of a country, or to the moral character of its inhabitants. Let it be supposed, that half a million of men are withdrawn from the business of manufacture, and placed in the army, in addition to the present regular force. We are not to expect these men are to furnish the same support to population, as when engaged in the sober pursuits of private life. On the contrary, there is cause to dread, that a nation or country which kept such a number of its effective men under arms, would, in a generation or two, become nearly depopulated. The first half million might perhaps be obtained; but, when these were 'killed off,' a second supply would not easily be procured. In fact, what is stated by Mr Chalmers on this point, is visionary and impracticable.

Fifthly, Considering agriculture as the parent of all other arts, we must dissent from every measure which, either directly or indirectly, is calculated to impede its progress and advancement. Were the consumers of agricultural produce to be lessened in number, or were a greater share of public burdens devolved upon cultivators than fairly falls to their share, it is quite plain that their endeavours to cultivate the necessaries of life, would not only become feeble and limited, but that their means and abilities to pay public burdens, would also be abridged and curtailed. We are, therefore, in duty bound to lift up our testimony against the doctrines delivered by our reverend author, seeing, if they were acted upon, or carried into execution, a change in the rural and political œconomy of the country would be brought about, sufficient to ruin one half of its inhabitants, without conferring the slightest advantage on the remainder.

Lastly, Let Britons beware of those who attempt to depretiate the value of foreign trade, or who recommend measures which infallibly would bring about its destruction. This country has

been raised to an unexampled pitch of prosperity, by carrying on trade extensively with almost every quarter of the known globe; and, from local circumstances, is admirably calculated to become the emporium of the whole trading world. Political evils may, for a time, obstruct and lessen the extent of this trade; but, so long as the trade of other nations is exposed to similar evils, no serious danger is ultimately to be dreaded. Under the difficulties which naturally accompany a state of warfare, it is not the business of Britain to increase those difficulties, by artificial or political regulations. Instead of putting the slightest restraint upon trade, it is sound policy to give every facility to its operations which can possibly be communicated. Not so with our adversary. He has little or no trade to lose, therefore cannot suffer materially, from a temporary suspension. With Britain, the case is very different. She has a great trade to lose; therefore, the wisest steps which can be taken, are such as are directly opposite to those he has adopted. He is carrying on war against the trade of Britain, knowing that the nation is invulnerable in every other point. By imitating his measures, thereby attempting to controul him, we, in fact, give strength to his endeavours. Perhaps the wisest course which this nation can adopt, with regard to commercial matters, would at all times be the one which is directly contrary to the course previously chalked out by our formidable antagonist. N.

Statement of the Numbers, the Duties, the Families, and the Livings of the Clergy of Scotland, drawn up in 1807. *By the Rev.* WILLIAM SINGERS, *Minister at Kirkpatrick Juxta.* Edinburgh, Park. London, Harding.

THE question concerning the appropriation of Teinds, has been of late much agitated; and, in this pamphlet, a pretty correct view is given of the sentiments entertained by the *Scottish Clergy*, upon that important question. Mr Singers seems to consider the whole teinds as belonging to the Clergy; though, on this point, his arguments do not seem to be supported either by the law or practice of the country. It is evident that heritors have a certain right in the teinds, because they paid a certain value for them; though it is equally evident that they hold them, subject to the burden of providing expedient stipends to the clergy. This has always been the opinion of our best lawyers, though very contrary to the doctrines inculcated in this pamphlet. N.

BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

THE months usually considered as constituting the spring quarter, were this year absorbed by winter; and, of consequence, the slightest vegetation was not discerned, till summer burst forth with a splendour much greater than is usually displayed at its entrance. From the second week of November to the first day of May, a few days of March excepted, the severities of winter were constantly experienced. Even in April snow storms prevailed, which rivalled those of December and January, and caused immense damage to the flock-masters.

Notwithstanding the months of February and March, with the exception already made, were cold and ungenial in every respect, yet the weather was friendly to the seed process, being generally dry; while the ground, from repeated frosts, was admirably disposed to receive the harrow with more facility than would otherwise have happened. The oat and bean seed were therefore executed under the most favourable auspices; though the seed grain remained much longer in a dormant state than usually occurs. The braird, however, was not in the least injured by this inactivity; but, when it did appear, displayed an aspect of the fullest health and vigour. Some of the bean fields may perhaps furnish an exception to this character; but any apparent debility with them must be attributed more to imperfect seed, than to the inclemency of the weather when the seed was deposited.

The fallow wheats, especially those upon thin or moist soils, are considered much below par, and in a state which does not promise a heavy crop at harvest. From information communicated, it would seem, that the quantity of wheat sown for the current crop, cannot be rated above two-thirds of what was sown in the preceding year. This remark is applicable to Scotland only, it being understood that the quantity sown in England does not differ materially from the ordinary extent. Much more land, however, is occupied with barley than for several years past; and this circumstance threatens to be a grievous loss to the farming interest, should distillation from grain be prohibited.

Markets for grain have not been amiss through the quarter; and there is some cause to dread, that the stock in hand will rather be below, than above, what is required for supplying the country through the summer months. The price of wheat has been tolerably steady; but barley and oats have advanced considerably since the date of our last publication. It was well known beforehand, that these grains, particularly the latter, were not plentiful; and that, at all events, a degree of scarcity might occur before the next crop was harvested.

The demand, however, has been so greatly increased since the report of the Sugar Committee was made to Parliament, that prices have advanced much more than was expected, or would have happened, had that report not been made. The distillers had previously agreed to stop work on 10th May; and their stock of grain was regulated accordingly. When the Committee reported, that it was expedient to prohibit distillation from grain after the 1st of July, in order that the great quantity of sugar on hand might be disposed of, the distillers, one and all of them, agreed to depart from their original resolution, and to continue at work till the time when it was supposed a prohibition would take place. In this way the prices of barley and oats were greatly enhanced; and the scarcity, so much dreaded by the Committee, was almost to a certainty brought about. Under the impressions which seem to have guided the Committee, it would have been wiser to have recommended an immediate prohibition, than to have postponed it to a term when the evil, at least for this year, must be altogether irremediable.

We have examined the minutes of the evidence taken before the Committee with considerable attention, and are unable to determine therefrom, with precision, whether the object of their appointment was to relieve the sugar-merchant, or to ascertain the character of last year's crop. To be sure, the majority of questions put to the witnesses are so much directed to the latter object, that a stranger might be led to infer, that the goodness or badness of the crop was the immediate business under their consideration. With regard to the crop of last year, we have never entertained two opinions. It was undoubtedly a short one for every kind of grain, except wheat; and the opinion given at the time, has been confirmed by the state of markets, since autumn, over the whole country. But, will the recommendation of the Committee avert the threatened evil? Surely it cannot; for the deed will be done long before the proposed prohibition can be enforced. It may undoubtedly have effect upon next year's markets, but none upon those of the present year, unless it be of a mischievous nature. We are loath to investigate the consequences more minutely, because nothing of a consolatory nature can flow from such an investigation.

The agriculturist may, however, receive a vast deal of information from the minutes of evidence; and had our limits allowed, it was intended to present our readers with copious extracts. Suffice it to say, that several abstract questions, of great importance, seem to have been discussed when the witnesses were examined. In particular, the relative utility of different modes of cropping was sedulously investigated. Indeed, the Committee seem to have bestowed uncommon pains to find out, whether spring wheat, barley, or oats, were the most valuable crops. It was rather unfortunate, however, that the time of sowing spring wheat was, for this season, passed by, before these points were investigated; so, of course, the result could be of small importance in settling the propriety of a prohibition

hibition meant to subsist only for a single season. These things, we dare say, were not thought of by the Committee, otherwise they would have had greater influence on their proceedings.

The subject is now before Parliament; and if that august body come to any determination before this Number is published, we shall not fail to notice the same in a postscript. When the report of the Committee was moved in the House, a great many able speeches, *pro* and *con*, were delivered by the members who took an interest in the discussion. It would have done one's heart good to have heard the Chancellor of the Exchequer talking so eloquently about the scarcity of last year's potatoe crop, especially at a time when the season of using potatoes was so nearly passed by, that no danger was to be dreaded from a scarcity of that root. Indeed, the season of malting and distilling is now also so nearly over, that it is a matter of little importance to the country, whether the prohibition takes place or not for this year. It is upon the produce of next crop that the measure can operate; though it is truly surprising, that the whole reasoning is employed to prove, that the prohibition was necessary, because the last crop was a defective one. The defectiveness of the last crop has nothing to do with the merits of a measure which relates entirely to the succeeding one; and till it is ascertained whether that crop is good or bad, we are in duty bound to pronounce the recommendation of the Committee as injurious to the agricultural interest of Great Britain, and as calculated to relieve the West India cultivator at the expense of the British farmer.

During the discussion which took place on this business, the conduct of the distillers has excited a good deal of surprise. It was naturally supposed, by well meaning people, that these gentlemen would be in arms to oppose it; that they would imitate the conduct of the manufacturers of pig-iron on a recent occasion; and would put their whole force in motion (and their force is not inconsiderable) against a measure which, at first sight, seemed to be directed against their most valuable interests. Simple folk reasoned in this way; but the able and intelligent gentlemen, who constitute the distillery body, thought in a different manner. They saw, or thought they saw, an immediate benefit from the prohibition; therefore, threw cold water upon every attempt to oppose it. With a similar view, namely, to serve their private interest, they forced on distillation by every possible mean, in order that a large stock of spirits might be provided before the day of prohibition arrived; and, at the time they were purchasing every boll of grain within their reach, gravely talked of the expediency of the prohibition, in order that a sufficient quantity of bread corn might be retained in the country!! If the prohibition is enacted for a limited time, a doubt need not be entertained concerning the advantages which it will confer upon the gentlemen concerned in the distillery trade; but, on the other hand, if the prohibition is not carried, it is equally certain that their recent speculations will not prove beneficial. People differ on the point, whether profit or loss should be considered as the most suitable reward; and really and truly it is a point which we do not venture to determine.

For other particulars connected with this important buſineſs, we refer our readers to the copy of a letter from a Scotch farmer to his repreſentative in Parliament, given under the head of *Scotch Intelligence.*

The fat cattle and ſheep market has advanced conſiderably, eſpecially for the latter article, which is exceedingly ſcarce. A great mortality was occaſioned amongſt young ſheep and lambs in all the higher diſtricts by the April ſtorms; and the conſequences will be felt, not only in the current, but in ſucceeding years. Few lean cattle have yet been marketed; but it is expected that thoſe in decent order will ſoon meet with a demand. A very great portion of winterers are, however, in bad condition, owing to the uncommon ſcarcity of fodder in many diſtricts. Indeed, unleſs a ſprinkling of turnips is given to cattle after February, it is an impracticable taſk to keep them in any thing like a proper condition. Their blood gets ſo thin, that one half of the ſummer is conſumed, even though their paſture ſhould be good, before improvement of any conſequence is brought about.

We inform our readers with a good deal of ſatisfaction, that a queſtion relative to fences, exactly of the ſame nature with the one mentioned in our Magazine for Auguſt 1806, (Vol. VII. p. 382.) was lately decided in the Court of Seſſion. The queſtion was brought by advocation from the Sheriff of Haddingtonſhire; and the Court ſeemed to be unanimouſly of opinion, that there was no ſuch thing as a common law of Scotland applicable to a tenant being obliged to ſupport fences, if he had not come under an obligation to that purpoſe in his leaſe. This was the ſum and ſubſtance of the opinion delivered in this Magazine; and we congratulate the tenantry of Scotland upon ſuch a material point being eſtabliſhed in their favour. The Earl of Hopetoun, and his tenant Mr Dudgeon, were purſuers, and Mr Robert Howden, tenant of Weſt Garleton, defender.—Counſel for the purſuers, Meſſrs Robert Blair and Thomas Thomſon; Agent, Mr Hugh Bairnsfather, writer to the ſignet.—Counſel for the defender, the Honourable Henry Erſkine, Mr John Dickſon, and Mr David Cathcart; Mr Andrew Steele, writer to the ſignet, agent. The queſtion was brought before the Court in an excellent and judicious petition, drawn by Mr Dickſon, who, on that occaſion, diſplayed an intimate knowledge of the rural economy of Scotland, ſeldom exceeded by any of his contemporaries.

A gentleman, to whom this Magazine has, on numerous occaſions, been under important obligations, requeſts us to offer a premium of FIVE GUINEAS for the moſt approved Eſſay (the CONDUCTOR to be judge) upon the following queſtion. 'What is the beſt rotation of crops for light land (wheat being one) in a late and rather a moiſt climate?' It is a deſideratum to have wheat ſown, under ſuch circumſtances, by the 20th September; and the chief object of the queſtion is, to aſcertain the moſt eligible preparation, or the moſt ſuitable preparatory crop for wheat on ſuch a ſoil, and in ſuch a climate, as is condeſcended upon. Nothing is required reſpecting the management of the crops; but it is expected that proper arguments will be brought forward

forward in defence of the ſyſtem propoſed. Competitors are requeſted to conſider themſelves as placed in a farm not in good order, and to give eſtimates of the expenſe neceſſary to bring it into a ſuitable condition, together with calculations concerning the returns which may be obtained under a judicious execution of the ſyſtem which may be recommended. To render theſe things more eaſy, the ſize of the farm is ſtated at 200 acres Scots meaſure. Competitors for this premium, will therefore be ſo good as tranſmit their eſſays, under cover, to the Publiſhers, on or before the 20th October next, with a ſealed note, containing the motto prefixed to their eſſay, together with their addreſs; which note ſhall not be opened till judgment is pronounced. It is probable that the ſucceſsful eſſay will be publiſhed in the December Number of this Magazine; but, at all events, it will be notified, at that time, to to whom the premium is adjudged. The unſucceſsful eſſays will be left with the PUBLISHERS, and delivered to any perſon who brings a copy of the motto prefixed to the one which is ſought after.——*May* 31.

SCOTLAND.

Banffshire Quarterly Report.

ALTHOUGH the weather, during the greater part of this quarter, was uncommonly cold and boiſterous, the operations of the field have been carried on with conſiderable deſpatch. Severe froſts now and then occaſioned ſome interruptions; but the land was for the moſt part dry, and in tolerable condition for receiving the ſeed. No other favourable circumſtance, however, can be reported. About the 14th ultimo, the weather preſented all the appearance of a ſecond winter, which continued for ten days with the utmoſt rigour, the ſnow being as deep as at any period ſince Martinmas. During this time, a very ſerious alarm prevailed for the preſervation of cattle, as the ſtraw, which had been given but very ſparingly for ſome time before, was nearly exhauſted; whilſt hay, by no means a plentiful article, was all bought up, in the courſe of a few days, at 16d. and 18d. per ſtone. Thoſe who could procure nothing elſe, were obliged to apply again to the whins, although in a faded ſtate. The weather providentially ſettled about the 24th, and vegetation proceeded ſo rapidly, that, in the courſe of eight days, a very conſiderable relief was experienced; but had the ſtorm continued a week longer, the one half of the cattle could not have ſurvived it. Several beaſts, however, died; and the generality of them are in ſuch a reduced ſtate, that they cannot ſoon be in marketable condition. Seed work is nearly concluded; and, although the grain was long of ſpringing, is now making a good appearance.

This, however, only applies to the lower part, and moſt favourable ſituations of the county. The upper diſtricts are in a moſt deplorable ſtate. The loſs, both of cattle and ſheep there, has been conſiderable; and labour is in ſuch a backward way, that the one half will not be got executed. Seed is likewiſe very ſcarce, and

so weak, that it cannot be depended on. The oldest man alive does not recollect seeing the country in such a distressed situation;—tenants daily coming to the landlord, and threatening to renounce their tacks. From the small quantity of grain that remains unsold, a general scarcity is much dreaded before harvest. Seed oats have sold at 25s. and 30s.; barley 30s. and 35s. per boll of 128 Scots pints; and oatmeal, in retail, at 2s. per peck of 8 pounds Dutch. Wheat only brought 30s. per boll of 88 pints Scots, and hitherto not much in request.

No cattle dealers have yet made their appearance, and fat cattle have not yet exceeded 8s. per stone, sink, although beef sells in the market at 7d. and 7½d. per lib. Few or no servants being yet engaged for the ensuing half year; on that account, the rate of wages is not yet ascertained; but a considerable reduction is expected, which, considering the state of matters at present, would be only a natural consequence.——*12th May.*

Letter from a Gentleman in the Country.

'THE period is now approaching, when that voracious insect the gooseberry caterpillar will, by its depredations, set most of the gardeners in the kingdom to work, each with his favourite nostrum, for its destruction.

'While Mr P. H. is busy with his *tobacco liquor*, and Mr A. Z. with his *sulphur vivum*, permit me to request such of your readers as may not have a thorough conviction of the infallibility of these *effectual remedies*, to make trial of a simple method which succeeded with me in extirpating that noxious vermin, when every other with which I was acquainted had proved abortive.

'The moth was one (or perhaps both) of the kinds described in vol. II. page 369 of your Magazine, and generally made its appearance about the end of May. A few days after observing it, upon inspecting my bushes, I found a considerable number of the leaves, especially those near the bottom, and on the south or most sheltered part of the bush, covered on the underside with its eggs. It occurred to me, if these were removed, (which, without injury to the bush, they might easily be), that it would be an immense saving of labour, instead of picking or shaking the caterpillars off, after they had spread over the whole bush, (a way recommended by some of your correspondents, but one, in my opinion, hardly practicable). I accordingly set a boy about picking them off; and causing him, with one hand, hold up a branch, so as to expose the back of the leaves, while the other was employed in picking them into a basket to be carried away, he in a short time cleaned every bush in the garden. This operation, however, I found necessary to repeat every week, until the moth disappeared; but, in the end, had the satisfaction of finding it attended with complete success, and, upon the whole, with much less trouble than any one who had not made the experiment could imagine.'

West

West Stirling Quarterly Report.

From the favourableness of the weather, the labours of spring have been carried on with little interruption, and finished in a style of uncommon excellence. The weather began to settle about the middle of February; and a drought, accompanied with a degree of frost, and interrupted occasionally by a transient fall of snow, continued till the beginning of May. Though the ploughing was, from the variableness and inclemency of the weather during winter, in a very backward state, yet, meeting with little interruption afterwards, it proceeded with so much rapidity, that the seed process began some weeks earlier than usual. Beans were sown, in the lower district, about the beginning of March, and the oat seed finished there about the end of it. It was apprehended that the severity of the frosts would have injured fields early sown; and, on this account, in the higher district, sowing was suspended during the last half of March. From the appearance of the braird, it is now evident, that, in dry grounds, no injury has been sustained; and, on wet soils, the loss is scarcely perceptible. In the latter case, there is certainly some hazard; and, when drainage is ineffectual or impossible, it is prudent to delay the sowing of wet grounds till that of the dry is finished. As a general rule, it is certainly clear, that the farmer should disregard all set times of sowing established by former indolence, and commence this operation so early as the season will admit, as in most soils the seed has sustained no damage from the severe frosts of this spring, and as, in our northern latitude, grain requires as much climate as possible to bring it to full maturity.

As the oat-seed was generally finished in the higher district by the middle of April, the planting of potatoes succeeded without delay, and was concluded so early as the end of that month—a circumstance which will ultimately be found of infinite advantage to the quality of the crop. Many people delay the planting of potatoes till the end of May, and allege that the crop is very productive. The experience of last year's early frost has taught the errors of of that practice, and the necessity of early planting, as, in the latter case only, the crop is found plentiful and palatable.

A general tendency appears to introduce, and to extend, in this district, the culture of wheat. Within these few years, almost every person has sown it after potatoes, and the unfavourable conclusion of last harvest did not deter them from this practice. Their small patches were not all sown till Christmas; and, from the joint influence of wet soil, climate, and season, their seed was unprofitably lost. Several considerable fields, in the vicinity of Kilsyth, were sown with wheat after hay. By the beginning of March, scarcely a plant was left by the grub; a striking proof of the danger of introducing wheat on a strong soil, except after a bare fallow, and of the impossibility of being freed from the grub in that situation by any weather, however variable, or by any frosts, however

ever severe. In the Carse, where wheat is better and longer understood, the seed process was early finished; and the appearance of the crop is very promising.

Barley, which sold heavily during winter, has risen to an enormous price, in consequence of the intended bill for prohibiting its use in distillation. One popular reason for the substitution of sugar, was the existence of a scarcity of grain in the country, and the impossibility of receiving supplies from abroad. It was thence inferred, that luxuries should be prohibited, that the necessaries of life might be increased. No sooner was it become apparent that this bill would be carried into a law, than every distiller bought up barley at any price, and is manufacturing it with the utmost vigour, knowing, from the inferiority of spirts from sugar, malt spirits must soon bear a premium price. The bill, therefore, has defeated every purpose of general utility, and, in a year of acknowledged scarcity, has greatly increased the consumption by distillation. Barley sold currently in Stirling from 40s. to 44s. per boll; and in the western parts of the county, barley for seed has risen to 47s.

The importation of oats from Ireland, however large, is now at an end. The price of meal has, of course, begun to rise rapidly. Two weeks ago it sold at 30s.; now 33s. is offered readily. Within these two last weeks we have had a considerable quantity of rain. Vegetation has at length commenced with vigour; the braird is in general promising. The pasture is assuming the appearance of verdure; and the hay promises a most abundant crop. Last evening we had a great deal of thunder, accompanied with heavy rain; which it is to be hoped will be critical, and introduce fair weather, otherwise strong soils will suffer considerable injury by the continuance of rain.—*May* 16.

Letter from a Scotch Farmer to a Member of Parliament concerning the Prohibition of the use of Grain in the Distilleries.

'The business, upon which you do me the honour of requesting my opinion, is of great importance to the country, and may be viewed in various lights; though, in every one of them, the attendant consequences seem to be of an unfavourable nature. To prohibit distillation from grain, when there is no scarcity of bread corn in the country, appears to be a strong measure, and one not called for under existing circumstances. According to my views, the measure will be vastly injurious to the proprietors and occupiers of land; inconvenient to the gentlemen who have embarked large capitals in the distillery trade; afford great encouragement both to the home and foreign smuggler; while, in all probability, it will be of small benefit to the sugar merchant. On each of these points, I shall trouble you with a few remarks, trusting they may be usefully employed in preventing such a pernicious measure from receiving legislative approbation.

'In the *first* place, the measure will be injurious to the proprietors and occupiers of land; because, in some degree, it will deprive the

the latter of the means of making good the engagements which they have entered into with the former. Here, it may be stated, that the farmer will be deprived of the surest and steadiest market for his barley; consequently, the article must either remain upon his hand, or be sold at a price greatly below what it would have brought had the trade remained on its former footing. From *data* tolerably correct, it appears, that the value of barley used annually by Scotch distillers, is not less than 400,000*l.* Sterling, which is a sum fully equal to *one-tenth* of the rental of Scotland; therefore, if the distillers are prohibited from using grain, a market will be wanted for a portion of produce which, upon an average, pays two shillings in the pound of our rents. It would puzzle the most sagacious economist to find out another market for the article, or to say in what way the deficiency thereby created in the means of paying rent can be made up. The breweries in Scotland are already fully supplied, and would hardly use an additional boll, were barley reduced fifty per cent. in value. The consumption of barley bread is every day lessening, and the manufacture of pot barley is not on the increase. Under these circumstances, what is the farmer to make of the barley formerly worked up into spirits by distillers? He need not go to England with it, for the like want of market must there ensue. Nay, the probability is, that the superplus of English barley will be poured into Scotland; and, from superiority of quality, find a market, when our own is unsaleable. No resource would, therefore, remain for the Scotch farmer, but to give his barley to hogs and other bestial; and, whether in this way he could make good his engagements with his landlord, need not be elucidated.

'The subject may be considered in another point of view, and in this one it will not appear as of less importance to the public, than when considered as affecting the farmer's private interest. The injury that will be done to good husbandry, by the measure under consideration, is incalculable. It is well known that barley is the best stepmother for rearing grass seeds, and that on light turnip soils no other variety of grain can be cultivated with so much advantage. But, if barley cannot be sold, it will not be cultivated; and, of course, other grains, not so favourable to good husbandry, must be cultivated in its stead. Wheat or oats may be substituted; but the question is, whether any of these grains can be raised with advantage upon light soils, which had previously carried a crop of turnips? I suspect such a substitution would not be found advantageous, even upon the richest soils; but, if not advantageous upon the richest soils, what must it be over three-fourths of Scotland, where wheat is little known, and where barley or bigg, and oats, are the only grains cultivated? In such situations, barley or bigg is very properly sown as a first crop after a summer fallow, or after a crop of turnips or potatoes; but, take away barley or bigg, and the upland districts would carry no other grain than oats;—a system destructive of good husbandry, because it is founded upon the most wretched principles that can be imagined.

'I

'I must now call your attention to the circumstances of last season, whereby the usual quantity of wheat was prevented from being sown, and of course a far greater breadth of ground is this year occupied with barley than has happened in many of the preceding ones. The increased quantity sown, would probably, at all events, have lessened the price of barley next year considerably; but, if the market is shut up, whence the best purchasers were obtained, the consequences must be doubly serious. Had the report of the Committee been brought forward at an earlier period, these consequences might, to a certain extent, have been avoided. But, to interdict and shut up the barley market, after the seed for another crop has been sown, seems neither to be a wise nor a just measure, and therefore it must be regarded as one which the wisdom of the legislature ought not to sanction.

'In a word, the proposed prohibition will be highly injurious to the proprietors and occupiers of land; and much more so to those of Scotland than England; because, in the latter country, a great deal more barley malt is used in public and private breweries, than in the other. Had dearth or scarcity prevailed, the measure would have produced none of the consequences described, because the want of one kind of grain always provides a market for another. But, under existing circumstances, barley must, next season, either become an unsaleable article, or obtain only an inferior price to its usual value, when compared with that of other grains. To a certain extent, the depression of barley would influence every other grain market. It is well known, that a small deficiency of produce causes markets to rise much higher than the actual deficiency would seem to warrant. In fact, it puts the market under the government of the seller. Upon the like principles, an extra quantity of grain thrown into the market, will effect a greater reduction of price than at first sight might be expected.

'In the *second* place, the measure will be inconvenient to the gentlemen concerned in the distillery trade. I need hardly mention, that some expense must be incurred in fitting up their works for the sugar distillation, and that many of the utensils, now in use, will become a dead stock. You will also attend, that these gentlemen are in a great degree unacquainted with the processes of distillation from sugar; therefore, may reasonably presume, that the trade, in the first instance, would not be a gainful one. But, be these things as they may, there is a certain part of Scotland where sugar would not be used. There, grain would be distilled in spite of a hundred thousand acts of parliament; and the spirits thereby produced, would be smuggled into the low country districts, to the ruin of the fair dealer, and the injury of the revenue.

'In the *third* place, the measure would afford great encouragement to the home and foreign smuggler. I have already hinted at what might happen at home; and the like consequences would inevitably take place with regard to the smuggling of foreign spirits, because the trade would instantly become a more profitable one.

Ardent

Ardent spirits, in some respects may, from custom and habit, be considered as a necessary of life with the people of Scotland; and for those distilled from grain, they seem to entertain the greatest predilection. Molass or sugar spirits, has long been held by them in abhorrence, and it may justly be believed that they would hazard a great deal to procure their favourite beverage. No doubt, their taste might be changed, but the period of a year would be too short for bringing it about. Of course, smugglers on the coast, and smugglers from the hills, would be welcomed with open arms, and every aid given to a trade destructive to good morals, and of manifest injury to the whole community.

'In the *fourth* place, from a conſideration of the above circumſtances, I am much inclined to believe that a great part of the diſtillers will rather ceaſe from working for a ſeaſon than carry on buſineſs under the propoſed plan. The market is at preſent pretty well ſtocked with ſpirits, and the trade will be puſhed to the uttermoſt till the term of the prohibition arrives, which will cauſe an accumulation of ſtock ſufficient to ſerve the country for a conſiderable time. Should a ceſſation of work take place for a ſeaſon, the price of ſpirits will advance of courſe, and this advance will neceſſarily occaſion a decreaſe of conſumption. The diſtiller will therefore feed the market, and likely may make the ſame profit from the ſale of one gallon as he formerly did from two. To him the ceſſation may therefore be of advantage. Not ſo to the public; for the deficiency of revenue muſt be made up by levying other taxes; whilſt the agriculturiſt, in many places, will, by the ceſſation, be rendered unable to contribute any ſhare. If I am right in theſe particulars, the extent of benefit to be conferred on the ſugar merchant may be eaſily appretiated.

'Upon the whole, prohibiting diſtillation from grain, when there is no ſcarcity of it in the country, will be injurious to agriculture, becauſe the agriculturiſt will thereby be deprived of a ſure and ſteady market for a chief article of his produce. It will alſo occaſion inconveniency to the diſtiller, and ſerve to encourage ſmuggling; whilſt the probability is ſtrong, that the meaſure will convey very little relief to the ſugar merchant, for whoſe ſake theſe evils are to be brought about.

'When you reflect upon thoſe things, I am almoſt ſure you will join me in thinking, that the ſteadieſt oppoſition ſhould be given to a meaſure calculated to bring numerous evils upon the country, eſpecially when the chance of doing good to any one is ſo ſlender as not to be calculated upon.'

Letter from the District of Carrick.——May 23.

'During the courſe of the preceding three months the weather has been uncommonly favourable for the purpoſes of agriculture. Dry weather commenced about the beginning of March; and for nearly the ſpace of two months we had not a ſingle ſhower. There was a conſiderable deal of froſt during that period, but ſeldom to ſuch a degree as to ſtop the plough for a whole day. Its worſt effect was upon vegetation, which it completely checked. Since the end of April, the weather has entirely

entirely changed; and for the ſpace of at leaſt three weeks there has been a tract as kindly genial warmth, with refreſhing ſhowers of rain, as ever happened at this ſeaſon. The vegetation has been ſudden and rapid. In ſo far as depends upon ſeaſon and his own labour, every thing looks favourable at preſent for the farmer; and that hope, by which his nerves are uniformly braced, is cheriſhed and invigorated. The price of grain, too, is rather looking up; and, from the ſtate of the world around us, there is no great probability of much depretiation for ſome time to come. The bill at preſent before Parliament, prohibiting the diſtillation from grain for a year, may no doubt affect the ſale of barley during that ſpace; but, conſidering the entire ſtoppage of importation of foreign grain, it cannot extend to any thing material; and beſides, when we take into conſideration the urgent neceſſity of the meaſure to the Weſt India trade, upon which the general proſperity ſo much depends, and the diſtreſſed ſtate of the manufacturing world, without bread or the means of getting it, one would ſuppoſe that theſe things ſhould go a great way to ſilence clamour, and induce a cheerful ſubmiſſion to this partial evil, if it were no more than out of compaſſion to ſuch a numerous body of our fellow-citizens.

The weather that has been ſo extremely favourable to the agriculturiſt, has been equally prejudicial to the grazier. The dry froſty weather quite cut up the paſture; *keeping* of all kinds became ſcarce and dear; and, till of late, there was no demand for ſtock almoſt of any kind. For a ſhort time paſt, dealers have ſet out; but ſales made, were at ſuch an inferior price as leaves little or nothing for the payment of rent. For ſome time paſt this has been ſuch a loſing buſineſs, that ſeveral farmers and cattle dealers have been obliged to give way. Yet we have not felt all the evils of the ſeaſon that were experienced in other places. We have heard of immenſe falls of ſnow and ſtorms, overwhelming the country where it happened, and threatening almoſt univerſal deſtruction. There have indeed been partial falls in this country, but to no great extent, and doing little more injury to the outlying ſtock than ſuſpending vegetation. The lambing ſeaſon, upon the whole, has been rather favourable. The wages of farm-ſervants are little or nothing leſſened. They know their advantage too well to allow of this. Such great numbers of young people are required during ſummer and harveſt for cutting and winning the moor hay, and cutting down the crop, both of which muſt be done in their ſeaſon at any price, ſervants are too wiſe and attentive to their own intereſt not to take advantage of this neceſſity.'

Upper Annandale Quarterly Report.

THE ſeaſon has been unuſually diſtreſſing to the ſtore-farmers. Winter ſet in very early and ſevere, and prolonged its ravages to a very late period. Many lambs have periſhed; great loſſes have been ſuſtained among the year-old ſheep; and ſome aged ſheep have died of poverty, as farmers call it, while the ſtocks, in general, are far from being in good, or even decent order. The late fine weather muſt prove highly grateful and refreſhing to ſuch of the lambs and diſeaſed ſheep as ſurvive;

vive; and the prices of thoſe which can be got into decent order are expected to run high. Hay was to be found throughout the ſeaſon for cattle, though ſome flocks were not quite ſo well wintered as uſual.

The riſing corns look well; and oats appear thick enough which remained above ſeven weeks in the ground before the braird appeared. Graſs promiſes a decent crop. Labour continues rather to riſe, though houſehold ſervants' wages have declined a little. Grain and meal have riſen of late, and ſeem to keep up. Barley, indeed, throughout the year, has been comparatively low; and for ſome time a buſhel of it ſold for leſs money than a buſhel of oats. The views of the ſheep farmers are truly uncomfortable at the preſent time; and hardly any of the lately ſet farms are affording returns equal to the rents and charges.——*May* 24.

Aberdeenshire Quarterly Report.

SINCE laſt report the weather has been in extremes, ſometimes very fine, and at other times exceedingly ſtormy. On the whole, ſeed-work was executed in good order: in particular, the ſeaſon for bear, which did not commence till the 1ſt of May, has been uncommonly fine. The ground wrought generally well throughout the month of March. In April, there was one ſtorm after another, with ſo little interval, that the ſeed ſown could not look up. The fields and patches of wheat ſown here and there throughout the county, were, during this inclement ſeaſon, thinned and deſtroyed ſo much, as ſcarcely to promiſe any crop. Since the firſt of this month, when vegetation began to take place, one thing of great conſequence has been aſcertained, namely, that the fears of many, with reſpect to the braird, were agreeably diſappointed. The ſeed, both of oats and bear, has come up as thick and full as in the beſt of years; and, at preſent, the young plants are looking exceedingly well for the ſeaſon.

From the length of the winter this year, (and it conſiſted of *eight months* of ſtormy weather), it was foreſeen that provender would not ſtand out for the ſtock on hand, till the graſs ſeaſon arrived. Many cattle, in fact, eſpecially in the upper part of the county, died for want of food; and thoſe farmers who have not loſt cattle altogether, encountered great trouble and expenſe in procuring ſubſiſtence for them. Scarcely any man recollects having ſeen the country, at ſo early a period of the year, as bare of every article of beaſts meat as at preſent. Not one article in the ſtack-yards in general; the fields of graſs, though ſufficiently promiſing, kept down by an over-ſtock, too early put thereon, through neceſſity; graſs parks taken from one fifth to one third higher rents than formerly, and that moſtly by farmers—the graziers, or thoſe who had been in the practice of renting ſuch fields before, being often beat out by thoſe in ſo immediate a want of the article.

Grain has advanced conſiderably in price during the laſt quarter. Bear and oats and oatmeal are now ſold from 28s. to 30s., and ſome parcels conſiderably higher. Cattle in good condition are preſently ſold fully at laſt year's prices; the ſmall and lean ſtock conſiderably

lower

lower. Sheep, except those ready for the flesher, are very low, and in small demand. Many of them have been lost during the winter, and those remaining are far back of condition. The price of labour is somewhat lower; but the difference is not material.

The Income-tax will be found very distressing, if not ruinous, to such as have embarked in extensive farms, perhaps with capitals rather under what might be required, than otherwise, whose assessment, in place of being at 10 *per cent.*, may perhaps be at 30 or 40 of their income. It may be said, that for what money they have borrowed they can easily deduct the 10 *per cent.* from the interest. But no argument can be more fallacious; as the very demand made by those who have small capitals, in nine cases out of ten, would be instantly to pay the principal sum. It may be legal; but whether it is so or not, it is looked upon as highly tyrannical and oppressive to clap on a high additional rent, at a random shot, upon tacks of more than seven years standing, and charge it with 10 *per cent.*, making the occupiers *gentlemen of property*, who have no title or wish for such distinction.——*May* 24.

Wigtonshire Quarterly Report.

The weather, during the spring months, was unusually dry, accompanied by many weeks of strong easterly wind, almost without interruption. This allowed farm-work to proceed with rapidity, and much early sowing was accomplished. In every instance, perhaps, this was not prudent; for even after April was well advanced, the harrow was occasionally unable to make an impression on the soil, on account of the intensity of the frost. Hence it is to be apprehended, that the early sown crops will not turn out the most equal. Upon the whole, this district has completed the operations of the season earlier than formerly, and in very good style; yet vegetation has been long retarded; and the earliest artificial grasses are barely fit for use, as a scanty article of green food. The fine showers we have had of late, however, must prove in every respect beneficial.

From the extensive disasters which befel last year's potato crop, much loss and inconvenience have been sustained.

Grain markets have advanced rapidly of late, and little remains on hand. Not so the cattle market; and, in this respect, our situation is sufficiently distressing.

For some time past, the establishment of new cattle-markets has here been the order of the day; so much so, that we have now no fewer than *five nominal* institutions of the kind, occurring regularly at as many different places, viz. Wigton, Newton-Stewart, Whithorn, Glenluce, and Sand Mill, in the vicinity of Stranraer. There is no inconsiderable display of zeal in all this, though the business is perhaps overdone.——*May* 24.

Ross-shire Quarterly Report.

The storms of winter abated about the middle of February in this district. Field operations were then further behind than they had been

been for many years; but a succession of the most favourable weather for the labours of seed-time having unremittingly followed during March and April, the seed was put into the ground in the best order, and at an earlier period than customarily happens. This period, though favourable to seed-work, was, however, quite the reverse to vegetation. It was excessively cold; the frost often so hard as to prevent harrowing in the mornings; and the cold blasts of hail, with a scanty subsistence, consigning the miserable cattle to destruction. Hundreds of them have perished by famine; and the sheep flocks in the Highlands have not escaped, particularly the lambs, amongst whom there has been a considerable loss. The most genial weather commenced with this month, which quickened vegetation, and advanced it in a degree unequalled. The young corns generally look well; but wheat is thin in many fields. Fat cattle are scarce, and sell readily at 9s. 6d. per Dutch stone, sinking the offal. Lean are very little in request, even at 50 *per cent.* under last year's prices at this time. Rouping of stock has become general, in order to get quit of them. Whether it is for the ultimate interest of either exposer or purchaser to grant a long credit, (from twelve to eighteen months), in a country where money is scarce, and thereby enhancing the price beyond the market value at the time, must be determined by after markets. Be that as it will, it is pleasant to observe, that the detestable practice of employing *white bonnets* (false bidders) is going into disuse; the exposer generally reserving one offer to himself on each beast.

Barley and oats are scarce; the former in great request, at from 38s. to 40s. per boll; Potato-Oats 36s. per five firlots; Wheat in demand at 33s. per Linlithgow boll; Oatmeal scarce, at 36s. to 37s. per 9 Dutch stones. Hay never was higher than 18d. per stone of 22 lib.; but, latterly, it could not be got at all, every ounce being eaten up.—*May* 25.

Forfarshire Quarterly Report.

From the date of last report to the 18th of April, the weather was uniformly cold and dry, frequently accompanied by frosts, with the exception of a few mild days about the 10th of March. Ploughing was, consequently, executed, and the oat-seed finished, in the most perfect manner; but vegetation much checked. A fall of snow (uncommonly heavy at the season) on the night betwixt the 18th and 19th April, stopped the sowing of barley for a few days; but then the weather seemed to have undergone a change for the better; and since that period, the season has been truly excellent for finishing the barley-seed, working the fallows, and other purposes.

The winter sown wheats have not so promising an aspect as last year at this time; the long continuance of bare frosts in spring has rendered them thin on the ground and stinted in appearance, in many instances; therefore, a full crop of that grain cannot be expected on soils of a middling and inferior quality.

Sown grasses in general look well, and grass parks, contrary to

expectation, have nearly maintained the last year's rents. Cattle are on the rise, and, from the plentiful appearance of grass, a still greater one is expected.

Wheat sells at present for 38s. to 40s. per boll, and barley and oats near the same price.—*25th May.*

Fifeshire Quarterly Report.

THE cold frosty weather which concluded the preceding quarter, continued until the beginning of May, at which time grass had scarce begun to spring; straw had become so extremely scarce, as to advance in price to the immoderate rate of 1s. per stone, and hay to 1s. 8d. and 2s. per ditto. Young stock were, therefore, in poor condition when turned out to grass. Work horses were generally supported on potatoes; which article continued at the low price of 5s. per boll, until the middle of April, when the demand for seed raised them to 10s. per boll, at which they still continue. The quantity planted this year has been considerable. Grass parks have fallen 20s. per cent.; lean stock fetch very moderate prices, and do not pay for rearing.

The oat and barley-seed were finished under favourable circumstances with all farmers who seized the proper period. Since the 1st of May we have had gentle showers, and favourable, mild, weather; so that the grass and corn fields are springing with unchecked luxuriance. A good deal of wheat, especially in wet land, is thrown out by the frost, and appearing to be thin, though what is in life is vigorous, and of a fine colour.

Turnip sowing is commenced; no season can be more favourable for that crop. The ensuing hay crop promises to be abundant; and, so far as the season has gone, appearances are so favourable as to furnish room for hoping that an abundant harvest will follow. Little of the last crop remains in the barn-yard; there is some wheat, but hardly any oats or barley, and the prices of both, as well as of oatmeal, continue to rise.

If the bill to stop the distillation from grain was intended to avert the danger of scarcity, it is too late by almost three months to accomplish that purpose; as, at the 1st of July, almost the whole barley will be previously distilled into spirits, and the prohibition of no use to prevent scarcity. But, in the event of an abundant crop of barley next year, it may deprive the farmer of a market for it, and injure deeply the agricultural interest. Should a failure of next crop take place, no person will pretend to say, that distillation from grain ought to be permitted for a single day.—*25th May.*

Tweeddale Quarterly Report.

THE last week of February and two first weeks of March being favourable for field labour, much work was executed, and even a good deal of seed put into the ground in fine order. But, from the middle of March to the last week of April, nothing could be executed in a satisfactory way, the intervening five weeks being almost a continuation of frost and snow; the former often so severe as to pre-

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vent even ploughing. About the 18th and 20th of April, just as the lambing season commenced, a severe snow storm set in, accompanied with intense frost and cold north winds, which not only stopt every kind of field work, but, from the inclemency of the weather, bad condition of the ewes, and uncommon sterility of the pastures, occasioned the loss of a greater number of lambs, and even hogs, than perhaps hath happened for many years past; and, what added much to the general distress, the fodder was universally exhausted, whilst the cattle were in such a miserable condition as to cause the death of many. In this county live stock of every description were never in a more critical situation than at the end of April; and had severe weather continued eight or ten days longer, it is impossible to say what evil consequences would have followed. But, on the 1st of May there was such a sudden and seasonable change, that, in a day or two, the weather, from displaying the severity of winter, assumed the genial mildness of summer, and the effects were no less wonderful. The grain sown on the 1st of March appeared immediately above ground, after having lain concealed for two months; a circumstance scarce remembered. The grass fields assumed an universal verdure, which gave instant relief to thousands of starving animals; and perhaps a more favourable interposition of Providence in that respect could not have taken place. The weather through the whole of this month has been of the most propitious nature, with a regular supply of rain for all the purposes of vegetation, and not so much as any way to retard the operations of the field; and at this date, rural concerns of every kind look promising. On account of the severe winter and spring, the corn-yards are completely exhausted; there is still a considerable quantity of meal on hand, but little rough grain can now be brought to market.

On account of the failure of the turnip crop in winter, this county has afforded little for the butcher; nor will the lambs soon supply that defect. The grain market is looking up, especially for barley, little of which can be spared. The prices are generally as under. Oatmeal 3*l.* per load of 16 Dutch stones. Barley 36s. to 40s. per boll. Little or no sale for young cattle, or even for milch cows; and oxen have a dull sale, at inferior prices to last year's. Good horses are not much reduced in price; but any sheep yet sold are about ten per cent. lower than last year's prices.—*26th May.*

Berwickshire Quarterly Report.

Our weather during the months of March and April, though excessively cold and unfriendly to vegetation, proved very favourable for carrying on field operations, scarcely a day's interruption by snow or rain having intervened between the date of last report (Feb. 22d) and the 16th of April, when we had a fall of snow, followed by another on the 18th. On the 21st a storm took place, which exceeded any thing of the kind in the remembrance of the oldest inhabitant, at so advanced a period of the season; a thin feathering of snow had fallen during most part of the forenoon, but between two

and three o'clock it began to thicken rapidly, while the wind increasing, blew quite a storm at north,

'And foul and fierce,
Stern winter drove along the darken'd air,'

and continued with unabated fury till the approach of morning on the 22d. All over the low part of the county, and also on the high land towards the sea, the snow fell in a damp sleety state; but amongst the hills receding from the shore, it was drifted to a great depth, and being just about the middle of the lambing season in that district, occasioned a very serious loss of lambs. May commenced with a most salutary change of temperature, and the progress of vegetation has since been very rapid; on the 5th we had a thunder storm accompanied with heavy showers, and, in some instances, with hail of such an uncommon size as to kill the young lambs.

Spring wheat was begun sowing about the 20th of February, and notwithstanding the inferior produce of last year, has this season been sown to a very considerable extent. From the conclusion of the wheat seed to the middle of April, the greatest part of the spring corn was got sown; and seldom has the soil wrought more freely under the harrow, or the different grains been deposited in a dryer bed.

The loss of young sheep in Lammermuir has this season been very great; and as, from their late harvest and long continued winter, little or no ploughing had gone forward till March and April, seed-work was necessarily thrown far behind in that district.

It was generally imagined, at the date of last report, that, from the great quantity of spoiled turnips, a glut in the fat markets would take place towards the end of March; but, fortunately, a good many fields of turnip had (on account of the very high prices demanded last autumn) been left unlet; which reserve coming in at that critical period, enabled many of the feeders to hold on, and tended, in a great measure, to avert the necessity of premature sales;—so that markets, though dull, never experienced any great or sudden depression; and since the appearance of grass, they have advanced considerably, best beef being now from 8s. to 9s. per stone, sink; do. mutton from 8d. to 9d. per lib. do., avoirdupois weight.

Cattle in forwardly condition for grass, have met with a ready sale; but hitherto, there has been little or no demand for either lean cattle or sheep to the English pastures. Grass enclosures have been letting from 10 to 15 per cent. below the rates of last year. Young clovers are looking well; but winter wheat has not in general a promising aspect.

Corn markets have kept advancing ever since the commencement of this quarter. Prices at Berwick, May 21, were;—Wheat from 50s. to 55s.; Barley, from 40s. to 44s.; Oats, from 33s. to 36s.; Beans, 50s.,—per boll of six Winchester bushels. There is but a very small proportion of the crop now in the farmer's hands: indeed, some stack-yards have been quite empty since the middle of April.

At

At the annual general meeting of the freeholders of this county, held at Greenlaw upon the 30th of April, the resolutions of the county of Ayr respecting the expediency of applying to the Legislature for relief from the unequal pressure of the property-tax on tenants occupying land in Scotland, were taken under consideration, and approved of; and the meeting were unanimously of opinion, that an application should be made to Parliament for removing this hardship, by adopting a fairer mode of assessing the occupiers of land in Scotland; and for that purpose requested Mr Baillie their representative, to concur with the other counties of Scotland in any application to the Legislature for obtaining what shall be thought the fairest way of assessing the tenants of this country.

At the recent hiring markets for single servants in this county, wages for the ensuing half year were considerably under the rates of last season.——*May 26.*

Fiars of Berwickshire, Candlemas 1808, *for crop* 1807.

Wheat per Boll -	L. 1	7	6	p. Linlithgow Wheat boll.
Peas per do. - -	1	11	0	
Merse Barley - - -	1	12	0	p. Linlithgow Barley boll.
Lammermuir do - -	1	10	6	
Rough Bear - -	1	8	0	
Merse Oats - - -	1	4	6	
Lammermuir do. - -	1	3	0	
Oat Meal p. boll of 8 st. Dutch	1	5	6	

Dumbartonshire Quarterly Report.

The months of March and April were uncommonly cold to the very last, which retarded vegetation long; but as they were also dry, every kind of grain was got sown in fine order, and with little interruption. So late was vegetation, that the hedges were scarcely green on the 1st of May; but since then, the weather has been warm and genial, with occasional rains, which has pushed on every thing very much; and the present appearance is tolerably promising. Wheat, with few exceptions, is thin and late; but has improved greatly since this month began. Much less than the usual quantity of this grain could be got sown; and a great proportion was sown very late. Hay promises to be an abundant crop; but the rain which improved it this month, is thought by many people to have occasioned, or at least increased, the damage sustained by the oats from the cut-worm, which in several places in this district has caused considerable loss, particularly of oats sown early on ground broke up from grass. Very little bear has been sown, which is easily accounted for by the discussion of the sugar distilling question in Parliament: but the dung formerly applied to the bear has served to increase the usual breadth of potatoe land. Pasture grass of every description never looked better.

Cattle and sheep have come through this severe season tolerably well, and without so much loss as might have been expected. Many of the former are very lean; but fodder could always be had in p

ty; for, in the end of April and during May, hay has been selling so low as 10d. and 11d. per stone. Some sales of lean cattle have taken place at the late fairs, but not to any great extent, and the prices are moderate. Markets for grain have started of late, particularly for oats and barley; but it is to be hoped there will be a sufficient supply till the new potatoes come in. Beef and mutton, as usual, sell higher at this season.

The farming interest in this county, have taken up the business of the Property-tax, and resolved to petition Parliament for a repeal of the rule by which it is assessed on occupiers of land. The same business was also brought forward at the annual meeting of the county on 30th April last, when the resolution to petition was approved of, and the influence of the landed interest promised for its support. If all the other counties of Scotland were equally unanimous, there seems little reason to doubt of redress being obtained. A copy of the proceedings alluded to is annexed.——*26. May.*

'*Property-Tax on Farmers and other Occupiers of Land.*

'*Dumbarton, 26th April* 1808.

'At a general meeting of Farmers and other Occupiers of land in the county of Dumbarton, called by public advertisement in the Glasgow newspapers, for the purpose of considering of an application to Parliament for obtaining redress from the erroneous and unequal assessment laid upon them by the Property-tax act now in force;

'Mr WILLIAM WALLACE, tacksman of Inverouglas, Preses.

'The Meeting, after the most mature deliberation on the business, for the consideration of which they were this day convened, and concurring unanimously in approving the general principle of a tax on property, the idea of which, it is believed, originated at first in the county of Dumbarton, cannot, however, help expressing their most unqualified disapprobation of the manner in which farmers and other occupiers of land in Scotland are assessed under the present Property-tax act, by making the rents they pay, or the valuation to be put on grounds in the proprietor's own occupancy, a criterion of their profits; than which, nothing can be more fallacious.

'It is notorious to every person who is the least versant in rural affairs, that the profits of farmers are equally, if not more fluctuating and uncertain than any other classes of the community, all of whom are only taxable according to their actual gains: but, as the law presently stands, the farmer is taxable, and must pay a certain sum of tax on a supposed income; while, at the same time, he may be an actual loser by his business. The farmers and other occupiers of land in this county think it their duty, at this critical juncture, to take this public method of declaring their willingness to pay their just and equal share of every public tax, and particularly the present Property-tax, according to their real profits; but they conceive it would be equally partial as unjust to assess them with the payment of a tax, without a corresponding income, unless (which they cannot for a moment

ment suppose to be the case) it is wished to place them on a more unfavourable footing, in this respect, than the rest of their fellow-subjects.

'It is, upon the whole, therefore, the opinion of this Meeting, that the farmers and other occupiers of land in Scotland ought, in justice to themselves, as well as from a real regard to the interests and improvement of the agriculture of the country, which must suffer most seriously if the present rule of taxation is persisted in, to take every constitutional method in their power for obtaining an alteration of the law as it now stands; and that they may be assessed according to the actual amount of their profits only, as is the fact with the whole other classes of men, whether merchants or mechanics, in this country.

'The Meeting therefore resolved unanimously,

'1*st*, That they will concur with their brethren in the other counties of Scotland, in every lawful measure that may be thought necessary for obtaining the desired alteration of the law; and particularly, the Meeting appoint that, for this purpose, a petition to Parliament be now drawn up, and subscribed by those present, and left open for others who may be disposed to concur in the measures now and hereafter to be adopted.

'2*d*, That a Committee of this Meeting be authorised to lay a copy of these minutes before the general meeting of the Noblemen, Gentlemen, and Justices of the Peace for the county of Dumbarton, advertised to be held on the 30th instant, and to request their support and concurrence, jointly or separately, in such application to Parliament, or otherwise, as they may think most fit; their own interest as landholders being most materially concerned in the measure, as well with regard to their tenants as themselves, for the grounds in their own occupancy.

'3*d*, That the said Committee do transmit copies of these minutes to the Members of Parliament for the county and district of burghs with which the county is connected, requesting they may use their united influence and exertion in obtaining redress.

'*Lastly*, The Meeting appoint the Preses, Messrs Parlane Macfarane, James Turner, William Turner, and William Grant, any three of whom to be a quorum, as a standing Committee of their number, to correspond with the other counties, or societies of farmers and occupiers of land in Scotland, who may feel themselves aggrieved by the present unequal mode of taxation, and to concur with them in every constitutional measure for redress; and that these minutes and resolutions be published in all the Edinburgh and Glasgow newspapers.

'WILLIAM WALLACE, Preses.'

'At a general meeting of the Noblemen and Gentlemen, Freeholders, Commissioners of Supply, and Justices of the Peace for the county of Dumbarton, the 30th day of April 1808 years;

'There was laid before the Meeting the minutes and resolutions of the farmers and other occupiers of land in the county of Dumbarton,

met at Dumbarton on the 26th current, 'for the purpose of considering of an application to Parliament for obtaining redress from the erroneous and unequal assessment laid on them by the Property-tax act;' which being read over and considered by the Meeting, they not only approve of the resolutions, but agree to support the petition to Parliament, and to give every further aid to the measure in their power; and the following Committee is hereby appointed to take charge of the business, viz. Sir James Colquhoun of Luss, Bart., Mr Hamilton of Barns, Mr Campbell of Succoth, Captain John Rowet Smollet of Bonhill, and Mr Dennistoun of Colgrane; three a quorum, and Mr Dennistoun Convener of the Committee.

'The Meeting also appoint a copy of the resolutions and of this minute to be transmitted to the county's representative in Parliament, and to the Lord Advocate of Scotland, with all convenient speed.

'JAMES DENNISTOUN, Preses.'

Letter from Falkirk, May 27th.

'THE singularly cold dry weather during the greater part of last quarter, presents two very opposite views of rural matters to the reporter, which will be of more or less consequence, according to various local circumstances.

While highly favourable in a clay district like the Carse, to Spring seed work, the very perfection of which, in such situations, depends on its being performed when the land is dry, it proved no less unfriendly to vegetation every where. Even so late as the 1st of May, the district scarcely ever exhibited so universally sterile an appearance. In many instances the seed was five or six weeks in the ground without discovering an appearance of vegetable life. With the commencement of the present month, however, fine mild showery weather took place, which produced a very sudden change in the whole vegetable world, which, since that period, has pushed forward with uncommon vigour. By the late rains, the hay crop will be completely secured, where there is not a real deficiency of plants, which does not seem so great as might have been expected after such severe spring frosts. The wheat crop in this district, upon the whole, is unpromising. What was late sown, even on fallows, is not good; that after potatoes and drilled beans, generally wretched; many fields of such have been ploughed up. Some of the fallow fields, however, that were early sown, that is, during the two last weeks of September, and first of October, particularly the former, are extremely luxuriant. I do not recollect the advantage of early sowing so very conspicuous as this year. Even at this advanced season, from the very inspection of a field, you can nearly fix the period at which it was sown; for, as that was early, so is the crop proportionally good. Barley was put into the ground in high order, and, rain following almost immediately afterwards, that grain brairded beautifully, and is extremely promising; as are also beans, which never looked better. With respect to oats, however, matters are not so favourable. They have been materially injured

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by the depredations of the grub; in this neighbourhood we scarcely ever suffered more generally from that cause. The oat fields are almost every where covered with immense flocks of crows,—a pretty sure mark of the prevalence of the grub. They have probably been of more use, in destroying a part of these noxious vermin, than the utmost exertions of night-rolling, which, I believe, is the only remedy usually practised, and, I suspect, not a very efficient one. Our grain markets were pretty steady till lately. Wheat, indeed, had been uniformly low and dull throughout the season, and a full supply was considered to be on hand. Barley was daily falling, as the natural death of the distilleries was fast approaching, and oats, which were unquestionably a short crop, and consequently high priced, had probably nearly reached their *maximum*; but no sooner were the words 'prevention of scarcity,' and 'stopping the distilleries,' pronounced in Parliament, than it seemed to act as a sort of watchword, to raise the prices of grain. Wheat started considerably; the effect on barley was necessarily more sudden, and greater; and oats, of course, felt the general impulse. Such seems to have been the first effect of an injudicious, ill-timed, and uncalled-for measure, which has been greatly aggravated by the increased activity of the distillers, who have eagerly purchased every boll of barley and oats they could lay their hands on, to mash down before the 1st of July, plainly foreseeing in the measure a golden harvest to themselves, whoever might ultimately be the sufferers; and in this way, the very evil which Parliament proposed guarding against, has in fact been anticipated, as matters would, in all probability, have gone on pretty smoothly till harvest.

This rise in the grain markets, it may be remarked, is really of little advantage to the farmer; for, at this season of the year, the greater part of his crop is usually in the hands of the corn-dealer. The farmer may, however, console himself with the prospect of holding on a considerable proportion of his barley crop next year through the whole season!!

Although the rent of arable farms seems as yet to have suffered no depression, there has been a considerable fall in grass parks, not less than 15 or 20 per cent., owing no doubt to the heavy losses sustained by the absurd rents given last year, which indeed appeared like madness, from the outset, to reasonable people.

Letter from Glasgow, 28th May.

'Since our last letter of intelligence, we have had large importations of oats and meal from Ireland, and the south of Scotland, but very little of any other grain.

'From the resolution of the distillers to continue working beyond the time at which they had agreed to stop, barley has advanced to a very high price; for the same reason, together with the scarcity in the East country, all along the Frith of Forth, oats have followed the like course, and advanced very considerably. From every appearance, both these sorts of grain, together with beans, will be extremely

remely scarce, before we can have fresh supplies of our own growth; and, from the present posture of affairs, our expectations cannot be very sanguine of foreign aid.

'Wheat, owing to the large stock on hand, was for a time unaffected with the high prices of oats, beans and barley; but, about eight or ten days ago, it began also to look up, and the advance, especially on British wheat, may now be quoted fully four shillings per boll. Nor do we think that this grain has yet reached its height; a further rise will in our opinion take place, unless a speedy reconciliation is effected with America, from whence, in that case, large supplies would be received. Although we had an early seed time, we cannot boast of an early spring. The first sown oats were from six to eight weeks in the ground before they could be said to braird. Many of those sown on cold wet lands suffered much from the severe frosts which we experienced in the months of March and April. Some on very fine lands and rich leas, have also been materially hurt by the grub worm; and a few of the fields, injured from both these causes, have actually been ploughed up again, and resown with barley. Oats, however, upon the whole, have a tolerable appearance; and even those which were injured have come on wonderfully since the 1st current, when the weather set in fine.

'The late sown wheats have an healthy appearance; those of an early date are not so promising, many of the fields being thin, and of a sickly aspect. We sow but little barley in this neighbourhood; but, what was sown this season, the seed-time having been favourable, is coming through in the finest order. The potatoes have been planted during the best of weather. The grasses of every description please the eye with the richness of their verdure, and promise to be an abundant crop.

'State of Glasgow Markets, 28th May.

Foreign Red Wheat	35s. to 40s.	p. boll Linlithgowshire measure.
Scotch do. (New)	38s. — 42s.	
Do. do. (Old)	.. — 43s.	
English do. - -	39s. — 44s.	
American do. - -	40s. — 44s.	do. of 240 lib.
Irish Mealing Oats	38s. — 40s.	do. of 264 lib.
Do. inferior do.	30s. — 32s.	do. Renfrewshire do.
Scotch Potato do.	34s. — 38s.	
Do. Small do.	30s. — 32s.	
Do. Barley - -	40s. — 42s.	do. Stirlingshire do.
Irish Do. - -	38s. — 40s.	
English Beans -	40s. — 42s.	do. do. do.
Scotch do. - -	38s. — 40s.	
English Grey Peas	40s. — 42s.	do. do. do.
Scotch Oatmeal -	.. — 34s.	do. of 140 lib.
Irish do. - -	33s. — 34s.	
Fine Flour - - -	65s. — 66s.	per sack of 280 lib.

Mid.

Mid-Lothian Quarterly Report.

THE spring quarter has been uncommonly favourable for seed-work of every description; but vegetation has been so backward, that, until the 1st of May, there was little appearance of growth. Since that date, a happy change has taken place. The weather has been quite continental, or steady, accompanied with moderate showers; and every thing has sprung, as it were, into existence at once. With a continuance of such weather, there are no circumstances whatever that do not warrant the hopes of an abundant harvest.

Yet, with these cheering prospects, a bill is proposed, and brought into Parliament, for prohibiting the distillation from barley next season, professedly from the dread of scarcity. But the authors of this bill do not hesitate to allow distillation to go on for a month longer than usual this year; thereby precipitating the very mischief which the bill professes to prevent. The agitating of this ill-judged measure, has already given a start to the prices of barley and oats, which otherwise would not have taken place. The distillers, wishing for a year's jubilee, and using their utmost influence to promote it, have been indefatigable in distilling an extra quantity for some time past, and in purchasing grain, at any price, for the purpose of carrying on their operations as long as they may be permitted; by this means stocking themselves with spirits to such an extent, as will infallibly make their fortunes at the expense of the community.

Much praise has been bestowed on the Committee of the House of Commons for their report; and very deservedly, so far as their researches have gone. Relative to Scotland, their information has been too limited. They ought to have been informed, that the people of Scotland have a predilection for spirits distilled from barley, and a dislike to spirits the produce of sugar; and that they will never taste a drop of the latter, while any of the former can be obtained. The distillers know this well; and none of them will distil from sugar next season; because it is clear to a demonstration, that they will gain more in one year by standing still, and doing nothing, than they would gain in two by distilling.

It is different in England; for there, whisky is not used before it is converted into gin; and perhaps the same process may be continued with the extract of sugar. But there will be no distillation in Scotland, unless it should be for the English market. Hence, of course, the West India merchant will find no relief by distillation in Scotland; while the revenue will suffer a diminution of not much less than a million Sterling; for which deficiency, the Chancellor of the Exchequer will be under the disagreeable necessity of imposing new taxes upon the very people who will suffer by the measure.

But what will be the situation of the barley grower? When the last heavy duty was imposed upon malt, barley became unsaleable, and the growers were under the necessity of consuming it with their

horses

horses and other domestic animals; a mode for which the commodity is very ill calculated, and for which purpose no farmer in Great Britain can afford to raise it. The consequence of which was, that it became absolutely necessary to diminish the quantity sown, so as the produce might be proportioned to the demand, and a fair market price be obtained. This system was continued from 1803 until now. But the barley of last crop having met with a more ready sale than any other grain, induced farmers in every district to sow more of it this season than for several years past, and for which, once more, they will in all probability be deprived of a market.—Speculative men ought never to interfere with the growers of the first necessaries of life. By doing so, the usual operations of agriculture are unhinged, and a train of bad consequences ensue, which it may require years to correct; whilst the public are sure to suffer.

It is exultingly stated, that the West India merchants pay three millions of taxes to Government, and therefore ought to be supported. But this is a downright fallacy; for neither sugar nor rum pay duties in the islands, nor even when they come home, until they are wanted for consumpt. It is the consumers, therefore, who pay the taxes; not the planter, or merchant. It has also been stated, in the most lofty strains, that the West Indies take goods from the mother country to the extent of between five and six millions Sterling. But the inhabitants of the United Kingdoms take commodities of theirs to a much greater amount, besides paying the duties for them. The business is merely a matter of barter, and the balance is greatly in favour of the West India merchants.——*May* 29.

East-Lothian Quarterly Report.

The weather, during the months of February, March, and April, was generally dry, almost always cold, and altogether hostile to vegetation. In fact, the year may be recorded as one which was without a spring quarter. But the deficiency was amply made up by the month of May, which has been uncommonly genial and friendly to the growth both of corn and grass. Matters in this way were restored to something like their ordinary state; and the fields, in general, display an appearance not inferior to what takes place when previous circumstances have been much more favourable.

The dry, cold weather of March, suited admirably well for preparing and drilling the bean lands; and the frost was rarely so intense as to stop the harrowing of oats, at least in the low district of the county. Under these circumstances, the fullest opportunity of doing justice to every branch of work was enjoyed; and the braird of the spring sown grains, though uncommonly slow, proved to be close; whilst the aspect of the young plants, with the exception of some oat fields seized upon by the grub worm, is almost in every case healthy and vigorous.

Many of the wheat fields, particularly those that were summer-fallowed, must however be reported as thin of plants, whilst those that remain

remain in life are ſickly, and of an unpromiſing appearance. The beſt wheats are thoſe which ſucceeded drilled beans and clovers. A conſiderable quantity of wheat was ſown in February and March, which is in a thriving way, having been greatly favoured by the heat and moiſture of May. Taking the county in the whole, leſs wheat is ſown for this crop than for any ſince 1803.

The preparation for turnips is going briſkly on; and many of the ſummer-fallows are in a forward ſtate. A good deal of ruta baga is already ſown; and the drilling of field yellow turnip will proceed without delay. The utility of the laſt mentioned eſculent is now completely aſcertained, and the quantity ſown is increaſing every year.

Seldom have the hay fields preſented a better proſpect; and hopes are entertained that a full crop of this neceſſary article will be reaped. Indeed, the demand for hay is now ſo great, that it cannot be ſupplied by an ordinary crop. The paſture fields alſo look well, where they were not too early, or too heavily ſtocked. Graſs rents have fallen conſiderably; a circumſtance not to be wondered at, when the heavy loſſes of laſt year are remembered.

Rarely have the ſtack-yards ſhown ſuch a naked appearance at this time of the year. In fact, many of them were emptied a month ago. This, of courſe, independent of other things, would have occaſioned an advance upon the price of grain, eſpecially as every part of Scotland ſeems equally ill ſupplied. An increaſed demand from the diſtilleries for barley and oats, however, cauſed a greater advance than would otherwiſe have happened, the laſt of theſe grains being now nearly as high priced as wheat, whilſt the other is from ten to twelve per cent. higher than the golden grain. Beans and peas are alſo ſcarce articles, and will ſoon be in few hands. Of wheat, a decent ſtock remains for ſummer conſumption; and the market through the ſeaſon, with the exception of one or two days, has regularly received a ſupply fully adequate to the demand that has appeared.

Upon the whole, rural matters muſt be reported as in a much better ſituation than could have been expected three or four weeks ago. Should the weather continue mild and temperate, without ſpiring winds and heavy daſhes of rain, there is reaſon to hope that the current crop, ſome of the wheats excepted, will make a return to the farmer ſuitable to the expenſe and trouble beſtowed upon its cultivation.——31. *May.*

ENGLAND.

Extract of a Letter from an English Gentleman who lately visited Scotland.

'MUCH as I always loved and reſpected the people of Scotland, I am now much better pleaſed with that country, in almoſt every reſpect, ſince I viſited it this ſpring, than I was beforehand from report. Of the agriculture, in particular, from what I had an opportunity of obſerving, the half had not been told me. The generally accurate culture, and exact economy of the ſoil, and its produce, aſtoniſhed me, eſpecially

eſpecially in thoſe parts of Eaſt Lothian that I had an opportunity of looking more nearly into. The reſpectable appearance, too, of every farm-ſtead, is well worth obſerving; ſuch, in fact, as I never ſaw any where elſe. On my return into Yorkſhire from theſe parts, the ſyſtem of management appeared to me to decline towards ſomething of an imitation only, particularly after recroſſing the Tweed. Few or none of thoſe noble turnip crops, which I had ſeen in Eaſt Lothian, and which, if here, would be worth 30l. per acre at this moment, were to be obſerved; yet, allowing for difference of ſoil, there are many extenſive farms under capital management throughout Northumberland. Some valuable crops of turnips were ſtill to be ſeen, but chiefly in the broadcaſt way; and every attempt at the improved plan of drilling, now adopted about Haddington and Dunbar, ſeems failing. Theſe remarks apply to Durham alſo, and the north parts of Yorkſhire; in the middle diſtrict of which county, ſcarcely a turnip is to be ſeen: ſuch are the effects of a bad ſeaſon, and of inferior management. The wheats in Scotland did not ſtrike me as being ſuperior to many fields ſouthward; but, from the few old ſtubbles left, I could not but draw concluſions in their favour. The preparations for drilled beans, turnips, and ſummer-fallows, were in a capital ſtyle; and, in ſhort, every agricultural operation was attended to, and executed in the moſt exact manner.

'Any perſon travelling from South Britain for the firſt time, when he hears of the extremely high rents that are paid for farms in Scotland, muſt be at a loſs to conjecture how the tenant can perform ſuch wonders upon his poſſeſſion, as enables him to diſcharge ſuch a vaſt out-payment in the ſhape of rent. Scottiſh farms muſt alſo be worked at an immenſe expenſe of labour. The Engliſh farmer, then, who has no idea of any thing like ſecurity of tenure beyond the current year, except in a few inſtances, naturally aſks, what is the taliſman that can effect theſe ſtriking reſults? what is the ſecurity for capital, not merely laid out, but ſunk and loſt for ever to the farmer, in increaſing and improving the permanent funds and income from an eſtate not his own? An Engliſh farmer muſt no doubt aſk all theſe queſtions, and more, in the true ſpirit of the antient times.

" Poor was his houſe, his father's painful hand
" Diſcharged his *rent*, and ploughed another's land."

However, before he can have long obſerved their improvements, and reasoned on them, he will find all his doubts removed, and all his queries completely anſwered. In ſhort, *Long Leaſes* are the grand radical cauſe of the whole. These ſo far *identify* the intereſt of the landowner and occupier in the actual improvement of the ſoil and eſtate, in ſuch a way as abſolutely to inſure the intereſt of both. It is underſtood that leaſes in Scotland vary much in their terms and conditions; but, it muſt be eſſential to the leaſe, and have the beſt effects on improvement of every kind, that the terms include both tenant, heirs and aſſigns. In a word, though formerly not a very warm friend to leaſes, I am now quite ſatisfied that this mode

mode of tenure is calculated to serve the proprietor fully as much, if not more, than his tenant. It is the alone way in which the full value of the landed property can be obtained, because it secures the tenant of time and opportunity to reap the fruits of every improvement in his power to make; and, unless he possesses that security, it is folly to expect that the beaten path will ever be left, or a new course be traced out. On these accounts, I confess myself a convert to the leasehold system, and earnestly wish that every acre of land in the kingdom was possessed under that tenure, the land which proprietors are pleased to farm themselves, only excepted.'

Letter from Wales, 20th May.

'In this quarter of the island, we have experienced a long winter, and rather a backward spring, although not an unfavourable one on the whole. We had four days successive rain in the beginning of April, which was the only hinderance experienced; since which, the weather has continued dry, and seed work has been done in a favourable way. The spring corn, in general, is looking well, but a great deal of the wheats are thin, owing to the many changes of black frosts and thaws during winter, without snow. I scarcely remember a winter with less snow than we had this year in the vale of Glamorgan. Since the first of this month, the weather has been warm, which recovered the wheats considerably, and we have a fine appearance of grass. For this last fortnight there has been a demand for cattle, and many have been drove eastward, though not at high prices; but, I believe, fully equal to those of last year. Cows and calves sell well. Sheep, I think, are rather below last year's prices, particularly ewes and lambs, which is not easily accounted for, as there is a general complaint of the loss of lambs this spring. Our markets have lately advanced, both for Corn and Butcher Meat. Wheat is now at 25s. and 26s. for 168 lib.; and there has of late been a call for Barley, which has advanced from 1s. to 2s. per bushel of 21 gallons; and there is a considerable rise in Oats, there being but few in the country. Beef and Mutton, from 7d. to 9d. per lib.; Veal, from 4d. to 6d.; Lamb, 7d.; Butter and Cheese still hold their price; Potatoes scarce and dear. We have a fine bloom on the fruit trees, and hope for a good crop, the season being late and mild.'

Letter from a Farmer near Wakefield, 21st May.

'After a long and severe winter, we are now favoured with warm and fruitful weather, which burst upon us all at once on the 1st of this month. Vegetation, since that time, has been very rapid; so much so, as at present to give us the prospect of full crops of hay and clover; also plentiful pasturage for our cattle and sheep. Though the winter was very severe, we had intervals of open weather, which afforded opportunities of ploughing for seed in good time; and the succeeding frosts brought the land into fine condition for the reception of the grain. I scarcely ever knew a season when land of every description wrought more freely, or when better work

could

could be made. The continuance of cold, north-easterly winds, with severe frost at nights, during the months of March and April, put such a check upon vegetation, that we appeared to have gained no advantage by early sowing.

'Three weeks ago, I began to fear we should suffer much loss, apprehending the grain would have perished in the ground. I had beans and barley sown the first week in March, which did not make their appearance till the latter end of April; never, in my experience, can I recollect spring corn to have lain so long dormant in the earth. But, to my agreeable surprise, both beans and barley have come out, full and strong; and seem to have sustained no loss whatever, by being so long confined. Both sorts are looking very well, having grown rapidly since the commencement of fine weather; and should the season continue dry, as it appears to do at present, they will have the advantage of those later sown. Upon the whole, however, spring corn is tillering fast, and at present promises well. Wheats upon good land, in high condition, are also looking well; those upon wet spouty soils, though much recovered, are so thin upon the ground, and the plants so much reduced by the severity of winter, that they will have much to do to make an average crop.

'The season is favourable for turnip husbandry; and much of the land which is proper for that plant, is got into a forward state of preparation. It is probable a great breadth will be sown. Some Swedish turnips are already sown. Our markets for fat cattle have hitherto been well supplied, and the scarcity which was expected in this month, has not yet fallen out. In fact, it appears the quantity is fully equal to the present demand. The stagnation in trade makes the consumption in these articles much less, the lower class of people not being able to purchase much butcher meat. Beef is selling from 8s. to 9s. per stone of 14 lib. sink; Mutton, 8d. and 9d. per lib. sink; Lamb plentiful, at 9d. per lib. All grain appears to be on the advance, particularly Oats, which have this day sold at Wakefield, from 35s. to 48s. per quarter of 8 bushels; Wheat, from 9s. to 11s. per bushel; Beans, 7s. 6d. to 8s. 6d. per bushel.'

Northumberland Quarterly Report.

To the statement in last report, of the great quantity of frost through the winter, in this district, it may now be added, that the hopes then entertained that 'the winter was away,' have not been realized. The latter end of February was very frosty. From the 28th of that month to the middle of March, the weather continued open and fine, with some slight frosts. As there had not been much snow, and the thaws took place with little or no rain, the arable lands were in a remarkable proper state for putting in the seed; and nearly the whole that was ploughed were sown in this fortnight; the land requiring so little harrowing, from being so finely pulverized by the frosts, that nearly double the quantity of work was done in the same time that there is in some seasons. But, from the 15th of March

March to the 3d of April, snow fell almost daily, with intense frost, which considerably impeded the operations of husbandry. A fortnight of tolerably fine weather, though very cold, then occurred, in which period the remaining Spring seed was put in. At this time, there was scarcely a turnip left in the country, and the young clovers were the only source from which relief could be got. But the frost and snow began again on the 16th, and continued to the 29th. During this fortnight, there were repeated storms of driving snow, in many places several feet thick; and a time of greater calamity was never experienced by the stock farmer. It being the lambing season of the Cheviot ewes, more than half the lambs were lost, and great numbers of the old sheep also perished,—being so much reduced by the long and hard winter, that they could not bear the severity of this latter storm. The loss, on the whole of this winter, amongst the mountain farmers, has been greater than ever remembered; many of them having lost more than half their flocks. The lowland farmers, after the turnips were done, were obliged to have recourse to corn for their fat sheep, and their ewes and lambs,—until the clovers were fit to depasture, which, in most places, were not till the first week in May. Many have also experienced a great scarcity of straw for their cattle; and, of course, the stack-yards are pretty well thinned; and it is greatly to be feared, that there is not so much corn in hand as there usually is at this season.

The markets for fat stock have been nearly the same through the last quarter, viz. Beef from 6s. to 7s. per stone (of 14 lib.) sink till about three weeks since, when an advance took place; and the prices are now from 8s. to 9s. per stone, sink, and mutton from 8d. to 9d. per lib. sink. The reason stated for this advance is, that many farmers, who used to give turnips to their straw cattle, and have them in forward condition to put to grass, so as to be ready for the butcher in one, two, or three months, had not this season turnips to give them; and, of course, they cannot come to market at the usual time. This deficiency being foreseen, enhances the value of the fat stock on hand. Lean stock has been sold at very reduced prices, from what the same description of cattle have been sold at for two or three years past.

Since the beginning of May, the weather has been fresh and warm, and vegetation has advanced with great rapidity. From the 8th to the 12th, a good deal of rain fell, which was of great use to the dry soils, but detrimental to the cold, wet lands, and particularly to fallows on clays and strong loams.——*May* 21.

Cumberland Quarterly Report.

The fall of rain near Wigton, a central part of this county, during these fifteen weeks, until the 20th day of this month, has amounted to little more than two inches; in consequence of which, operations in agriculture have met with almost no interruption. The month of March had only three wet days. Harsh cold winds, ungenial to vegetation, prevailed during the whole of April, which contributed to cause a very great declension in the price of heifers. The whole of this month has been propitious to the farmer; and is

very considerable quantity of rain has fallen since the 22d. Wheat sown in November, December, January and February, on dry soils, promises to be an average crop; but, in general, our early sown wheats, on the best prepared fallows, are very indifferent. The summer wheat (*triticum æstivum*) lately introduced into this county, sown during the *whole of April*, and some so late as the 5th of this month, wears a very flourishing appearance. No doubt can be entertained of its superiority to the winter wheat, in case of inclement autumns. Oats look in general very well. The ravages of the grub are only local. J. C. Curwen Esq. sowed 98 acres of oats during the first week in March, on a cold soil, 68 of which were drilled. He considers that the agriculture of this county has been injured by too late sowing, and hopes the success of his experiment will convince the surrounding husbandmen of the error of their present system. Arthur Young (see his 'Course of Experimental Agriculture,' a work that merits the careful perusal of every young farmer) found the conclusion of February and beginning of March, after repeated trials, the best season. Barley, where it has made its appearance, flourishes well. Arthur Young found March the best month for barley. From the 10th of this present month to the 20th is considered the best season, by the generality of farmers, in many parts of this county. We want, however, a sufficient number of accurately-conducted experiments, to ascertain the best season for sowing barley. Potatoes are in general planted. Grain, until the end of April and beginning of May, had a dull sale; Wheat 9s. 6d.; Oats 3s. 9d.; Barley 5s. 6d. *per* Winchester bushel. At present, wheat is 11s.; Oats 5s.; Barley 6s. 3d.; Potatoes 8d. per stone. The price of heifers is reduced nearly one third. Milch cows bring fair prices.—*May 25.*

Letter from London, 25th May.

'Since the report of last quarter, this market has continued to be well supplied from the ports on the east coast of England with grain of all kinds; and the prices remained pretty steady till within these two or three weeks, from which time there has been a good deal of activity in the trade. Wheat has advanced, during that period, 5s. to 6s. per quarter, oats about as much, and beans and grey peas rather more. The rise on the two last mentioned articles has been occasioned by the demand for them from Scotland, and the injury which the growing crops thereof have sustained. Oats are understood to be a good deal exhausted in the quarters whence they are generally brought to this market; and wheat seems to be affected, partly by the high proportioned prices of other sorts of corn, and in part by the complaints of its appearance on the ground; for it is not alleged that the stock on hand is any way deficient.

'Notwithstanding our differences with America are supposed to be adjusted, still the embargo continues, and neither the mother country nor the colonies are likely to receive any wheat or flour from that quarter soon. Although demands for these articles have been expected here from the West Indies, no shipments have been yet made beyond what are usual.

'The

'The evidence given before the Sugar Committee of the House of Commons, has made a general impression of the necessity of husbanding the corn resources of the country, without being calculated to excite any alarm whatever. As, however, the last crop of oats and potatoes were allowed to have been defective both in Scotland and Ireland, and these are not only the common, but the favourite articles of food of the lower classes in those countries, it were much to be desired that they could be induced to adopt, on occasions like the present, the equally nutritious and wholesome, and at same time less expensive food, of coarse wheat flour. Indeed, in Dublin, the consumption of that article has been double this season of what is generally used.

'The cold spring checked the progress of the winter wheats, which, in some districts, are reported to be thin; though both these and the spring sown have come forward very finely since the warm weather set in. The oats and barley were never got into the ground in better condition, and look well; but peas have in many places entirely failed, owing to the worm; and in Norfolk and Suffolk, many farmers have been obliged to plough up their whole crops, some of whom had from twenty-five to thirty acres each. Beans have been affected in same manner; but the injury to them is not of equal extent.

'Below are the prices of all sorts of corn at this day's market.

State of London Markets 25th May.

Wheat, Essex, Kent and Norfolk	76s.	80s.	82s.	per quarter
——— ditto and Norfolk Red	74s.	76s.	77s.	
——— North Country	70s.	72s.	74s.	
——— Dantzic and Koningsberg	70s.	72s.		
——— Russia and Courland,		none		
Barley, Norfolk and Suffolk	45s.	47s.	49s.	
——— North Country, &c.		43s.	44s.	
Malt, Norfolk and Suffolk	72s.	75s.	76s.	
Rapeseed, per last of 10 quarters		36l.	38l.	
Rye		50s.	51s.	per quarter
Beans, Pigeon and Small	66s.	68s.	70s.	
——— Ticks and Large	62s.	64s.	66s.	
Peas, White Boilers	145s.	150s.	155s.	
——— Hog or Grey	60s.	65s.	68s.	
Oats, Potatoe	46s.	48s.	50	
——— Poland	44s.	46s.	—	
——— Feed	42s.	44s.	46s.	
Flour, English, per sack	60s.	63s.	—	
——— American, per barrel 196 lib.	42s.	44s.	—	
Tares, per bushel	22s.	24s.	—	

'It may not be improper to observe, that it is to be expected, that the parts of the country which used to receive large importations of wheat from the Baltic, from the beginning of this month to about Christmas, will, of course, this season, have to depend on the counties on the east coast of the kingdom for their supplies; and this circumstance may soon operate on the prices of that article.'

Letter

Letter from a Farmer in the East Riding of Yorkshire, 21th May.

'SINCE the date of my laſt the weather has been, upon the whole, uncommonly ſeaſonable for getting ſeed of every denomination into the ground. Notwithſtanding the pleaſing ſenſations that might ariſe therefrom, vegetation was kept ſo very backward, and fodder of every deſcription being ſo quite exhauſted in a great many inſtances, and ſtock getting ſo very poor in condition as to cauſe the minds of many people to be in a ſtate of great deſpondency; when the month of May was uſhered in, by the moſt genial weather that perhaps was ever remembered. Vegetation burſt forth with ſuch vigour, as in a few days to afford plenty of food for the brute creation, and pleaſure and aſtoniſhment for the mind of man to contemplate upon; and ſuch continues to be the caſe at this time. Cattle and ſheep ſeem to be very abundant; for, notwithſtanding food gets plentiful, there is but a ſmall advance in price for thoſe that are lean. Fat cattle are dearer; being now worth 8s. 6d. to 9s. per ſtone of 14 lib. ſink; Sheep, 7d. to 7½d. clipped; Lamb, 7½d. to 8d. Our grain markets are upon the advance. Wheat is ſelling at 75s. 80s. to 84s.; Oats, 37s. 40s. to 46s.; Beans, 60s. to 64s. The wages of labourers continue at nearly the uſual prices; but the rent of land is riſing with great rapidity.'

NOTICES TO CORRESPONDENTS.

THE gentleman in Aberdeenſhire, who ſigns himſelf '*A Clown*,' does not write in character. If, however, he is pleaſed to communicate his addreſs under cover to the Publiſhers, the Conductor will explain the particulars which he notices.

We are very well pleaſed with '*An Inquiry into the Cauſes of the late Riſe on the value of Land*;' but the paper is too long, and requires to be pruned. This can eaſily be done by leaving out two or three of the moſt diſtant cauſes, and ſome of the illuſtrations, without leſſening the utility of the paper in the ſlighteſt manner.

SCRUTATOR *on the Property-Tax*, and other matters, does not write amiſs; though, in ſome reſpects, his principles differ from thoſe which have influenced us when treating of that ſubject. We ſhall give him a hearing.

A Comparative View of East Lothian Husbandry in 1778 *and at this period*, will likely be preſented in our next Number; as alſo *the Lucubrations of* '*A Laird*,' though he ſeems to be in bad humour with his tenants.

A variety of other communications are received, which want of time prevents us from examining.

No. XXXV. will be published on Monday 15*th August.* Our reporters are reſpectfully requeſted to tranſmit a correct view of the crop in their reſpective diſtricts, and to favour us with their reports on or about the 6th of the month.

Erratum in this Number.——In Account of Stirlingſhire Huſbandry, p. 193, 6th line from bottom, for *ſeventeenth* read *eighteenth* century.

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THE

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BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints concerning the Highland Society of Scotland.

SIR, *London, 2d May* 1808.

I OBSERVED, a few days ago, in our newspaper called The Oracle, or True Briton, an account of the whimsical origin, and now extensive utility and influence, of the Highland Society of Scotland, wherein it is said, that there is scarcely a person in that country who bears the name, or aspires to the character of a gentleman, who is not solicitous to become a member. It is said, at the same time, that the Highland Society of London, who have been heretofore chiefly distinguished as a convivial association, have it in contemplation to adopt some of the laudable and beneficial plans of their sister society, particularly in the establishment of a Caledonian Asylum in London, for the reception and education of the children of soldiers, sailors and marines, who have served a certain time, or who have been wounded, or fallen in battle; and for the establishment of a Gaelic chapel, where divine service is to be performed every Sunday in the Gaelic or Erse language.

In consequence of the appearance of this paper, I have been induced to send you the following hints.

Of all the institutions that do exist, or have existed in Scotland, for a number of years past, I have always considered the Highland Society as the most truly patriotic, and, from the number, wealth, and influence of its members, the most extensively useful. Even

at this distance, I take particular pleasure in observing the accession of new members, at the periodical meetings in January and July annually, and have been highly gratified to see these members not belonging to the Highlands only, but to every corner and district of Scotland; and to include not only noblemen and gentlemen of landed property, but also gentlemen in the military and naval lines, of the professions of law and medicine, in the department of commerce and manufactures, clergymen, and indeed of every vocation whatever. As every person is concerned in the objects of the Society, so, every one appears to have come forward with alacrity to promote them.

Sorry I am to mention one exception to this general accession, in a part of the country which, I believe, is justly reckoned the most populous, wealthy, thriving, and industrious district of Scotland,—I mean the city of Glasgow, and its vicinity. Glasgow, with the neighbouring and connected towns of Paisley, Greenock, Port-Glasgow, Dumbarton, Renfrew, and Kilbarchan, and the intermediate villages, I calculate to contain 150 to 160,000 inhabitants, or about one tenth of the population of Scotland, who all depend on the produce of the soil for their subsistence; and from all this great population, I am able to reckon only a very small number who have thought it proper to become members of the Highland Society. I am well aware that the gentlemen of Glasgow, Paisley and the vicinity, may allege, that while they promote manufactures and foreign commerce, they indirectly promote agriculture, and that no further direct interference falls within their line. But surely, as no description of gentlemen in Scotland are more interested in having always a ready and plentiful supply of corn for the numerous hands which they constantly employ, and for having the price of this corn at a moderate rate, I infer that no description of gentlemen whatever are more interested in promoting and forwarding the objects of the Highland Society than the gentlemen of Glasgow and the neighbourhood. I do not keep out of view the facility with which they have the means of importation.

But, independent of secondary considerations, many gentlemen of Glasgow, Paisley, and the neighbouring towns, are themselves very considerable land proprietors, and have, of consequence, as much interest in promoting the improvement of their estates, and in introducing an improved system of agriculture into that part of the country, as the gentlemen of the Highlands, or any other district of Scotland who have so generally and liberally come forward to second the views of the Society. It is the more to be wondered at, that the gentlemen of the West Country have been so backward in joining this institution, as they have been,

been, at all times, and on all occasions, eminent for their public spirit and promptitude, in promoting every plan that could forward the general interest of the country. Witness the extent and perfection to which they have brought the muslin manufacture, the silk gauze manufacture, the arts of dyeing and bleaching, the iron manufacture, thread-making, sugar-boiling, ship-building, leather-dressing, glass-making, incle-working, different chemical processes connected with trade, and, in a word, every great commercial concern in which they have embarked.

For these reasons, the country had reason to expect, that the West Country gentlemen would have come forward promptly, and joined this patriotic Institution. With equal spirit, liberality and good taste, we have seen them within these few years erect a theatre, which is second only to those of the capital of the British empire itself in extent and magnificence. In the same period, we have seen them raise the first monument in Britain to our immortal naval hero, NELSON. When we see the public and private buildings in their city, we have equal reason to applaud their magnificence, generosity, and public spirit; and, when we view the country in the vicinity of Glasgow, Paisley, and the other towns in the district, we must be convinced that the proprietors evince not only great skill in the cultivation, but a liberal expenditure of money; and, notwithstanding their backwardness in joining the Highland Society, we have seen the Directors, with equal public spirit and good judgment, appropriate part of their funds to the encouragement of agriculture in the neighbourhood of that city, and one of their largest premiums offered for the best account of a part of Lanarkshire.

The annual contribution to the funds of the Institution is such a mere mite, that it never can be an object with any one; and, therefore, we must attribute the backwardness of the Glasgow gentlemen to inattention; and it was with a view to draw their notice to this object, that I have ventured to suggest this delicate hint. Sorry, truly sorry should I be, if, by giving the hint in this public manner, I should give the slightest offence to the Glasgow gentlemen; but it occurred to me that a memento was wanted, and I could not think of any other such appropriate mode of conveying it. And if this public, well-intended suggestion, shall have the effect of procuring only one additional member, the purpose I had in view will be in so far answered. I am, with due respect for the gentlemen of Glasgow, and for you,

AMICUS SCOTIÆ.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Utility of Summer-Fallow, and a proper Rotation of Crops, as Antidotes for the Diseases of Corn Plants.

SIR,

THE following *hints* concerning fallowing, and adhering to a proper rotation of crops, as being antidotes for some *diseases* in plants, were committed to paper several months ago for your perusal. But though I sincerely wish to promote the success of your useful Miscellany, I am not sure if these loose hints will serve that purpose; therefore, transmit them with some hesitation. To your judgment, however, I now commit them; and, whether they may be thought worthy of a corner in your Magazine, or not, I hope you will accept of them as a mark of regard and esteem from, Sir, your humble servant,

Dublin, 1808. J. B.

The art of raising upon the soil grain and other plants, in the greatest possible degree of perfection and abundance, is the chief study of every agriculturist. A natural question arises, How is this to be done? The answer is short. Put your soil into a state of fertility; keep the crops free from *disease*; and allow no weeds to rob them of the nourishment which the soil is capable of affording.

The farmer must endeavour to rectify, by *art*, any natural deficiency that may be in the fertility of the soil. The component parts of fertile soils are understood to be clay, sand, and calcareous earth, mixed in such proportions, that they are neither too close, nor too porous; that is, the sand draining off the moisture in wet weather, and the clay and calcareous earth, by their attraction for water, retaining it in drought. Upon soils of the last description, the plants are neither too much overcharged with moisture in a wet season, nor run the risk of perishing of *thirst* in a dry one. If to such a soil you add dung, or other decomposed organized matter, the field will then be in the most fertile state possible. Presuming that the soil is such as here described, how are we to prevent diseases from affecting our crops, and robbery being committed upon them by weeds? The best remedy hitherto discovered, is a proper rotation of crops, and fallowing the ground, when necessary, during the summer months.

But to lay down a proper rotation of crops, and to know when fallowing is required, we must have some knowledge of the *physical causes* which make these operations necessary. This cannot be

be acquired without studying the nature of the plants which we wish to cultivate, and the *diseases* to which they are liable.

The Great Author of Nature has so ordered matters, that plants, as well as animals, are liable to disease at every period of their lives. Many perish prematurely, and others linger on in a sickly state, to the natural period of their existence. The curing diseases of animals has long been a principal study with mankind; but the diseases of plants have been little attended to; and, when observed to be *sickly*, the real cause is generally overlooked, and ascribed to want of fertility in the soil. But this is by no means so frequently the cause of their sickly appearance as is imagined; for plants often fall into decay upon a rich fertile soil, as animals will sometimes contract diseases upon a rich luxuriant pasture. The causes of such decay in plants, are *infectious diseases*; which diseases may, in a great measure, be prevented, by fallowing, and a proper rotation of crops. The diseases for which this mode of management is an antidote, may be divided into two classes,—those that attack the plants in their stems and leaves, and those that attack the roots. The former resemble cutaneous disorders in animals,—the latter, diseases in the intestines: the former the most frequent,—the latter the most deadly, and worst to eradicate.

Cutaneous diseases in plants are chiefly occasioned by insects.* Nature has destined every plant to nourish numerous tribes of them. Some insects, in their caterpillar state, are large and easily seen; others are so minute as only to be discovered by the assistance of a good glass. These latter, though invisible to the eye, are often so numerous, that they suck the juices out of the plants, so as to occasion *disease*, and frequently death. To counteract the attacks of these formidable enemies of our crops, we must look into the book of nature for a remedy; and luckily, one presents itself to us. I have mentioned, that every plant is destined to nourish various tribes of insects; but few insects, that generate above ground, can live upon a variety of plants. The greater number can only exist upon one plant, or plants of a similar nature. This *natural fact* puts these hosts of enemies more under our power, than at first sight they would seem to be, as, by a rotation of crops, and fallowing, you may keep them so in check, that their attacks will by no means be dangerous. If a field of cabbages, for instance, are infected with the caterpillar of the white butterfly,—if cabbages are continued to be planted on it, the ravagers will increase, having plenty of food provided for them; but, sow the field with a crop of grain,

* Forsyth on Fruit Trees.

and they muſt all periſh, as the fly cannot then find a proper nidus to depoſit her eggs upon. It is exactly the ſame with every other inſect, however minute in ſize. Should your wheat be infected with *ruſt*, follow up your rotation with a green crop, upon which the animalcule cannot exist, and you clear the field of the diſeaſe.

The natural hiſtory of inſects is very intereſting to the farmer. They propagate moſtly from eggs; but claſſes have been found to bring forth their young in a living ſtate. * Many tribes propagate on animal ſubſtances, and are carniverous; but I do not mean to enter fully into the natural hiſtory of inſects. I only notice it ſo far as to ſhow, that, whatever their habits of living may be, or however minute in ſize they may appear, they all poſſeſs the power of generating their own ſpecies, and that none of them are produced by *equivocal generation*. It is evident, from the nature of theſe vermin, that a rotation of a white and a green crop alternately, will clear the ground of them moſt completely, by ſtarving them to death in their infancy; and thus the crops may be kept free from all diſeaſe occaſioned by inſects that are annually, or oftener, produced from the egg.

A rotation of crops gives the farmer an opportunity of clearing his fields likewiſe of all annual weeds. Many of the green crops are raiſed in greater perfection in drills than otherwiſe. By carefully hand-weeding and horſe-hoeing drilled crops, you may ſoon get the better of ſuch robbers of your ſoil, and prevent them from doing injury to your crops in future.

But you cannot clear your fields ſo eaſily of ſuch enemies as are not annually produced from the ſeeds or eggs. The diſeaſes affecting the *roots* of plants are generally occaſioned by inſects of this nature. They are generated below ground; and numerous tribes of them live in the ſtate of grubs for years. A rotation of crops has little or no effect upon them, as many of them live equally well upon the roots of a variety of plants. The tribes of inſects of this deſcription are numerous; but the natural hiſtory of ſuch as are minute, have not been, and probably never will be aſcertained. We are, however, acquainted with the nature of ſome of them. The cockchaffer, it is well known, lives three years under ground, in form of a grub, devouring the roots of every plant that comes in his way. He at last changes into a chryſalis, from which he burſts forth a winged beetle, and is then only able to propagate his kind. † It is thought that many of the ſcarabeous inſects have ſimilar natures. A rich loam, of rather a light nature, is the ſoil moſt liable to be infeſted with ſuch vermin;

* Dr Anderſon's Recreations. † Ibid.

min; and when they have once gotten poſſeſſion, they are not eaſily driven out. A ſummer-fallow is the beſt remedy for this evil, hitherto diſcovered; but it muſt not be executed in a ſlovenly manner, otherwiſe it will do no good. To have its proper effect, the ſecond furrow ſhould be given in April, and not a weed allowed to be ſeen upon it for ſome months after. By frequently ploughing and harrowing the ſoil, you not only give an opportunity for rooks and other birds to pick up the grubs, but you ſtarve them to death for want of food. Theſe vermin cannot be deſtroyed otherwiſe than by a ſummer fallow. Winter ploughing has no effect upon them. During that ſeaſon, they ſink deep into the earth, and lye in a dormant ſtate, requiring no food. As the warmth of ſummer approaches, they become alive, active, and moſt voracious. They then riſe near the ſurface in queſt of food; and then, and then only, you have it in your power to deſtroy them.

Let the farmer avail himſelf of these natural facts; let him endeavour to counteract the workings of nature which are against his operations, by every means that are within his power. He ſhould take every advantage, which a rotation of crops affords him, of destroying weeds and vermin; but when that will not make his fields clean and ſound, a ſummer-fallow ſhould be reſorted to. Many plants also infeſt arable fields that are not annually produced from the ſeed, but ſpring from every *chip* of the roots that may be left in the ſoil. When a field is much overrun with ſuch plants, the beſt, and often the cheapeſt way to get clear of them, is by a complete fallow.

Many errors have been committed in agriculture, by founding theories upon falſe principles. Were we able to perceive always correctly the manner in which nature operates, we could never go very far wrong; but we often miſtake her operations, and imagine that other cauſes than the real ones have produced the effects which we obſerve. We *may* build theories founded upon ſuch falſe obſervations, which ſhall appear very ſatisfactory; but they will ſoon ſhow the falſe foundation upon which we have built, from the *reſults*, when put in practice, not anſwering our expectations. Nature, and nature's laws, have been the ſame ſince the days of Noah. There is nothing *new* in her operations under the ſun. Mankind have an itching deſire after novelty; and often imagine they have made a new diſcovery, when, in fact, it was only their former ignorance which makes it new to them. This propenſity in mankind to pry into the workings of nature, might be attended with much good, if kept under controul, and nothing admitted by us as *facts*, but ſuch things as reaſon aſſured us came within the grasp of our perceptions. But we too often allow imagination to lead the

way, and impose upon ourselves by building castles in the air. Mr Tull, one of our earliest writers on drill husbandry, was an instance of this. His system of drilling was excellent; his ideas of the component parts of a fertile soil correct; and his theory of the food of plants pretty well-founded: yet, with all this knowledge, he drew very false conclusions. He reasoned, that as a fertile soil will nourish, and bring to perfection a variety of crops equally well, the *food* of all these plants must be the same, nature having given a power to the seeds of every plant, when they come to germinate, to organize this food in a certain manner peculiar to their individual natures and formation, in the same manner as you may convert grass into beef or mutton, by giving it to cows or sheep, each of these animals being endowed with a power of converting the same food, so as to suit their own particular organs or formation; hence he concluded, that by keeping the lands free from weeds by drilling, the same kind of crop might be raised on the same field annually, as long as he had a mind. A rotation of crops he thought quite unnecessary; but, as nature acts contrary to this theory, it of course fell to the ground.

Since the days of Tull, writers on agriculture have been almost unanimous in recommending a rotation of crops; but differing very much about (what is perhaps of little consequence) the range or course of the rotation. In many of the periodical publications of late on this subject, various rotations have been held up as superior; and much time has been spent to *prove, by calculation*, the superiority of *particular rotations*. None, however, have yet appeared so convincingly of more advantage than others, as to become the general practice. The truth is, local circumstances of soil, climate and markets, must always influence the farmer in the course to be followed; and it is a fortunate thing, that, in such situations, nature will yield a little. She has bestowed a variety of plants for the use and comfort of man, out of which the farmer may choose various courses of rotations, with equally good effect; thus giving him a choice of cultivating such crops only, as he finds, from experience, pay him best in his situation. The danger is, of recurring too frequently to what is the *paying* crop with him,—it matters not, whether it is a white or a green one; it cannot be annually produced with equal success; no speculative prospect of greater gain should ever tempt the farmer to depart far from a rotation of a white and a green crop alternately.

Near large towns, land is occupied by men of all professions. Many of them, though men of learning, know very little about *country* business; and have no idea of any other practice being necessary in any situation, but their own. Such men frequently

take

take it into their heads to write on the subject of husbandry; and, being men of *figures*, they will run you up the whole course of a rotation, stating the difference *clearly* in pounds, shillings and pence, between their practice and that of the country farmers. It must be owned, that the balance struck in favour of city farming, is often very great; and I have no *reason* to doubt, nor do I mean to contradict, the accuracy of such statements. But it is strange, that if farmers might make fortunes by the means which these writers point out *so clearly*, that they do not all immediately set about it. They appear to be possessed with the same degree of folly, which a certain brickmaker discovered in the farmers near London. This man had a small patch of ground near the city, from which he rapidly made a fortune, by burning it into bricks, and building houses with them. This worthy citizen took a jaunt into the country; but how was he shocked at the folly, ignorance and stupidity of the country people, who kept *large* fields in corn and grass, which, in his opinion, could pay but little. '*How easily*,' exclaimed the brickmaker, '*might all these people make fortunes, by burning their fields into bricks, and building houses with them!*' This brickmaker, it is presumed, would make but few proselytes. But when men of abilities, with only a partial knowledge of the art, take it into their heads to write upon agriculture, they sometimes set off their theories in such a plausible manner, as induces the unwary and unskilful to adopt their plans in situations not calculated for such modes of culture: the consequence is, disappointment and loss. With some of these theorists, green crops and drilling, are the *magic wand* for filling the coffers of the farmer. Fallowing is accounted, not only useless, but pernicious; as, by their accounts, better crops may be raised without it. * What a temptation is this for the novice to banish fallow from his practice altogether, though his fields may be in a state that loudly call for it. I am far from saying, that fallow should be universally adopted; but I am as far from saying it should be universally banished. Let the *natural causes* be attended to which make it necessary; and if nature demands that it should occasionally enter into the system of husbandry, let her demands be complied with. It is a real loss to fallow a friable soil that is free of weeds and vermin; but it is often a greater loss to continue cropping such lands, when the crops are annually diseased. The *effects* of such diseases are often not perceptible on the *bulk* of the crop. It may, upon a rich soil, be pushed on to the natural size of the plants; but if they have been

* Dutton's Observations upon Archer's Survey of the county of Dublin.

been sickly for any length of time, the seeds will not be well perfected, and will be deficient in quantity and quality.

Fallowing the ground, as well as a rotation of crops, are of very great antiquity; and wherever agriculture has been studied as an art, they must have been discovered to have been of importance. We are made acquainted with the practice of agriculture amongst the Romans, from some of their writers. They founded their whole prospects of abundance upon fallowing, and a rotation of crops.† The Egyptians, at a much earlier period than the Romans, practised agriculture as an art. Irrigation was well known to them, and carried on as a national concern, upon a large scale. They made the river Nile subservient to them; and, at a period, when the great body of mankind were wandering solitary hunters, or pitching their tents as herdsmen, that people had brought agriculture to a great degree of perfection, and raised corn in abundance.‡ Whether they followed a rotation of crops or not, cannot now be known; but I think it evident, that they fallowed their land, such as could not be irrigated at least, once in seven years; as *Moses, who was skilled in all the learning of the Egyptians*, imposed upon the *rude* tribes of Israel, whom he relieved from being the slaves of their more learned masters, a law, that their lands should lye fallow, or have a jubilee every seventh year. Let us not carelessly pass over these hints which we have from the ancients. Those men had the book of nature lying open before them as well as we have, and many of them were as capable of reading in it as we are. I am far from approving of the system laid down by Moses, as fallowing at a certain stated period may not be necessary. It should be left to the skilful practical farmer to judge when a field requires the operation of fallowing, as we leave it with the skilful practical physician to say when phlebotomy is necessary for a patient. But though the system of Moses may now be condemned, it certainly was the best that could be devised for such a people as he led out of the land of Egypt. He knew

† Virgil's Georgics.

‡ Irrigation, where it can be effected, is an excellent remedy for deſtroying all vermin which prey upon the roots of plants. Dr Anderſon, in his Recreations, mentions a field much infeſted with grubs, being completely cleared of them, by an extraordinary wet ſeaſon. The ſoil lay upon a retentive bottom; the continued rains raiſed the water upon this bottom to a greater height than uſual; by which means the grubs were all drowned in their winter quarters. Quicklime, laid on fallow, has a powerful effect in deſtroying vermin and root weeds. But theſe things do not come within my preſent plan, which is, merely to notice the effects which fallowing and a rotation have upon the health of our crops.

knew them to be rude, and ignorant of all the arts. He was afraid that a people so totally ignorant of agriculture, as they were, would, when they came into the possession of cultivated fields, *run them out* with overcropping; therefore, promulgated this law as the only means in his power to prevent such deterioration.

In many parts of the united kingdoms of Britain and Ireland, we have systems enforced similar to this law of the Jews, not indeed by the express law of the realm, but by proprietors of lands binding their tenants, by their leases, to fallow their field at certain stated periods, generally making the jubilee return oftener than Moses enjoined. When the bulk of farmers are ignorant of the arts, restrictions as to fallowing, and a rotation of crops throughout the lease, may be attended with benefit; and the farmer may, by acting under such restrictions, raise better crops, and reap more profit, than if left to the freedom of his own will. But as a knowledge of the art becomes general, such restrictions are often grievous fetters. At best, they only prevent the ignorant from going very far astray; but they often prevent the farmer from following the right path which fortunate circumstances may have pointed out to him. Though a rotation may preserve crops free from cutaneous disorders, yet various rotations may be followed with equal success; and he may be bound by his lease to follow one, which, from local circumstances, does not pay him so well as another would do. Fallow is a powerful remedy for destroying all root weeds and grubs; but he may be bound to use this expensive medicine oftener than nature requires, or has any occasion for. No intelligent farmer ought to be bound down by such fetters.

But plants are liable to disease, and fall into decay, from causes over which a rotation of crops, or fallow, have no influence. The soil, or climate, may afford too much, or too little moisture, or it may be impregnated with mineral substances hurtful to vegetation. The situation may be too much exposed to wind and storms, or it may be too much sheltered, to allow a free circulation of air for the plants to breath in, or have exercise from motion. To rectify such defects in soil or situation, is very foreign to the present subject. But I must observe, that plants, improperly nourished or sheltered, will be more hurt, should vermin attack them, and sooner fall a prey to their ravages, than plants differently situated.

But there is one disease to which our white crops are liable, which neither situation, fertility of soil, fallowing, nor a rotation of crops, seem to have much influence upon. By fallowing, and a rotation of crops, you may keep the fields free of the disease; but if you sow impure seed, you will infallibly have smut. This disease

disease long baffled the skill of the agriculturist; and though chance discovered a cure, yet the cause of the disorder is still doubtful. Much has been said and written on the subject; some asserting it to be occasioned by minute insects or animalcules; others affirming, that no living creatures are to be found upon smutted plants, but such as, at same time, may be found upon sound ones in the same field. Sir Joseph Banks has described the cause of the disease to be minute parasitical plants, preying upon the wheat. It is highly probable that future observations may confirm this opinion. But whether the destroyer is a minute insect, or parasitical plant, the seeds by which it is propagated must be too small, ever to be observed by us, even with the assistance of the best glasses. But we know enough of the disease from its effects, to dread its attacks. We know that it is infectious, as smutted seed will increase the disorder in the next crop. There is reason to think, that all infectious diseases are able to propagate themselves, else how could they be infectious? But some diseases are more alive, and more easily wafted from one place to another, by the wind, than others. It appears, however, that this disease is not far spread by the influence of the air, as one ridge may be smutted by sowing impure seed, when the immediately adjoining ridge shall remain free from the disorder. In this respect it resembles some very inveterate diseases which attack animals. They are never carried by the air, but must be brought into contact by some other means before they can lay hold on a new subject. When the poison of such diseases is lodged on the skin, it may frequently be washed off with water alone; and even when lodged in, or under the skin, as in the bites or stings of reptiles, if caustic is applied to the wound before the poison has entered the system by mixing with the fluids, it may kill the disease in its birth. I believe surgeons will allow, that the virulent matter of the small-pox may be extracted or destroyed in this manner from the wound made by inoculation, although it may have remained for some time under the skin. Smut, in wheat, seems to be a disease of this nature. You may free the seed grain from the infection by washing it in salt water, and drying it with quicklime. The lime, in that state, acting as caustic, kills the seeds of the disease. The grain may have remained for months covered with the infection; but the disease cannot operate till the grain begins to show life. As soon as that takes place, or very soon after the plant has developed itself, does the poison lay hold on the seminal parts of it, and so vitiates its juices, as to render it unfit to perfect its seed, or propagate its kind. Any one may be convinced that the disease begins at a very early period of the plant's existence, by dissecting a diseased plant,

plant, as early as its formation can be clearly traced, when these parts will always be found defective.

But, luckily for agriculture, chance discovered a remedy for this deadly disease. Tull relates the circumstance which led to the discovery. A ship laden with wheat was stranded; the cargo was saved, but completely wet; it was offered for sale at an under price. Some farmers ventured to sow a little of it, a few days soon showed that the grain vegetated. As it was sold much below market price, the farmers soon bought it all up for seed; but it was so completely wet, and stuck so much together, that, in order to make it separate in sowing, they mixed it with quicklime as the likeliest thing to dry it. Smut was very prevalent in the country, but, to the surprise of every one, not one head of smut appeared where this seed was used. From this accidental discovery, pickling to cure the smut in wheat has been practised ever since, and found to answer the end. Stale urine was afterwards found to be a more powerful remedy than salt water, but it is attended with some danger; for, if the grain is not immediately sown, it runs the risk of being deprived of vegetive life, and rendered totally unfit for seed. I have only noticed smut in wheat; but it attacks oats and barley also. It is likely that pickling might also cure these crops of smut: the loss in them, as to quantity, is often as great as in wheat; but what remains is of equal value at market as if no smut had grown in the crop; whereas, wheat that is smutted always sells at an undervalue. If farmers, by pickling, could procure sound crops of oats and barley, it would amply repay them for the trouble.

Accidental practice, or circumstances, have often made discoveries in the arts, which otherwise would have remained longer secret; but when chance has made the discovery, it is of importance for us to trace out the true cause of the phenomenon. The cause of this disease is still a little doubtful, and may continue to be so, as the infection may be communicated to the plant in a manner as invisible to our senses as some infectious diseases are communicated to the glands of animals. We see the diseased seeds of the plant and the diseased gland of the animal, but the causes which produce these disorders, are by far too minute for our organs to discover.

Fallowing, and a rotation of crops, have been observed by many farmers to be beneficial, who never thought of inquiring into the cause of their usefulness. Had farmers continued unconcerned about these causes, their practice must often have been in error; but they could not have been much further astray, than when acting upon assumed imaginary causes, which probably exist no where in nature but in some wild imagination. Men find

find it more easy and pleasant to solve every natural appearance by the workings of fancy, than to bring the subject under the cognizance of their senses. By the help of imagination, a person may sit in his closet and account *to himself* in the most *satisfactory* manner, for the causes of the most curious and minute operations of nature. But, to investigate the matter, so as to be satisfied from the testimony of his own senses that the thing is really true, a person must attend to minute objects, in some cases, for years, before he can pronounce with certainty on the subject. Unluckily for agriculture, the natural causes which render fallowing necessary were accounted for without due examination. The *jubilee* was a year of *rest* unto the *weary soil*. Men were sensible, from their own feelings, that animals required rest after hard exercise; imagination suggested that the soil also *must* require rest after a course of cropping. Nothing can more clearly show how prevalent this opinion has been amongst farmers, than the common phrases of recruiting a *worn-out*, or *run-out soil*, by resting, or fallowing. The idea that lands are restored to fertility by *rest*, is a very common, but very erroneous one; but many farmers fallow their land upon this principle. Having the idea that *rest* is the chief thing which their *tired* soil requires, they pay little attention to have the weeds and vermin extirpated by the fallow. Acting upon such false theory, has brought fallowing into disrepute, with some; but experience has proved, and it may be proved by any one who chooses to try it, that it is not *rest* alone which the soil requires; for, if it is free of root weeds and vermin, you may, with a very little dung, raise a good drilled *green* crop upon this soil, so much exhausted and fatigued with carrying *white* ones; and it will be found to show equal, if not more vigour in bearing next white crop, than if it had been rested by an ill executed fallow. It is evident, that every practice founded upon such false theory must lead to error.

The idea that green crops have a fertilizing quality which they impart to the soil, is held by many persons. I cannot contradict it; but I must say, that of all the reasoning which I have heard or read upon the subject, none of it brings conviction to my mind that these plants are possessed of any such qualities. It is not impossible—it is even probable, that they are possessed of these qualities; but I have no evidence to convince my senses that these are *facts* in nature; and therefore must remain in doubt. Until this is ascertained, we may, by practising upon these ideas, be pursuing a system as completely wrong with regard to green crops, as those who fallow their lands under the notion of their requiring rest.

There is a deficiency at present, in the theory of agriculture, which

which every one must feel who wishes to study it scientifically. In the operative part we have made great progress; but for this we are much indebted to some of the other arts. By the mechanical powers, we can determine which form of a carriage is best for our purpose; and from mathematical principles, we can construct a plough that shall cut the furrow of any breadth and thickness required, and turn it so as to leave it inclined at any angle we choose. This part of the business is well understood by many, though far from being so generally known as it ought to be: but the reasons given by many operative farmers, why a certain mode of culture is preferred by them, are often very unsatisfactory; and, not unfrequently, whimsical causes are assigned that do not exist in nature.

Agriculture with us, as an art, is still in a state of infancy. It is, however, an art that may be carried on scientifically as well as others. In the infancy of every art, much error must be committed; this, of course, cannot be avoided in agriculture. But let us try to correct our errors, by taking lessons from those following other sciences. It is true, the results from experiments in many of the other arts can be sooner known, and the course of the experiment can be more easily attended to, and brought more under the immediate cognizance of our senses; whereas, in the growth and formation of plants, nature works by such imperceptible means as to elude our keenest observation. Many of her operations, it is probable, will never be understood by man; but let not this prevent us from endeavouring to learn as much as the present state of things will admit. Let no *speculative theory* mislead us; let us beware of admitting as *facts*, such things as cannot be proved to be so by the evidence of our senses; and we may soon hope to see agriculture arise to a much higher degree of perfection than it has ever yet attained. Let us beware of imputing virtues to any modes of culture which they do not possess. We should carefully, and without partiality, endeavour to acquire a knowledge of the *natural causes* which operate for or against the health of our crops. Were we possessed of this knowledge, remedies might present themselves to us for preserving them in health and vigour, of which at present we are totally ignorant, and can form no conception. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Considerations on the Selection of Wheat for Seed.

SIR,

FROM a long practice in the trade of a baker, I had opportunity of observing the very different effects of fermentation on the flour of

of the numerous parcels of wheat which I manufactured; and always found, that in proportion as the wheat was bad, the more easily it was fermented; that in the case of smutted wheat, it was necessary that the fermenting spunge should be set very cool, otherwise sour bread would be the consequence; and that the flour of first rate wheat required the spunge to be set considerably warmer; or, which amounts to the same thing, that a greater quantity of yeast should be added to it. The inference I drew from these observations was, that the degree of fermentation proper to be excited, depended entirely upon the quality of the wheat; or, in other words, upon the quantity of *gluten* which it contained. And in order to ascertain this as correctly as possible, I had recourse to the following experiment, which I found to answer the purpose, and which I ever afterwards continued to practise with every parcel of grain that I manufactured. I took a pound weight of the fine flour, made it into dough, tied it loosely in a linen cloth, and washed and rubbed it in two or three basons of water, or in a running stream, till the whole saccharine parts were dissolved, and nothing but the *gluten* remained, which, when dried, weighed from less than two, to three, four, and sometimes more than five ounces. Having thus ascertained the quality of the wheat by the quantity of *gluten* it contained, I regulated the fermenting process accordingly; and can safely say, that my expectations were never disappointed.

Some years ago, wishing to try the effect of wheat, when used as seed, according to the quantity of *gluten* it contained, I sowed part of a field with grain, which, from former experiments, I knew contained a large proportion of *gluten;* and the remainder with wheat purchased from a merchant, the seed of which had been brought from London in the preceding year. Though this grain did not appear to me to contain nearly so much *gluten* as the other, yet it had not the least appearance of smut. The event, however, turned out as I expected; the produce of the seed merchant's wheat being much affected by smut, whilst not a single ball was to be found among the rest. From this, I am inclined to infer, that, though particular seasons may have a tendency to the production of smut; yet, if attention is paid in selecting for seed that wheat, the fine flour whereof is found to contain four or five ounces of *gluten* (if more the better) to the pound weight, that smut would seldom occur. I am, Sir, yours, &c. AN OLD BAKER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Liberality of Landlords to their Tenants.

SIR,

You profess that your Magazine was set up and is conducted on *liberal* principles. *Liberal* they are with a vengeance in favour of

of *tenants*. But you show so very little *liberality* to us *landlords*, that I am surprised none of them have taken notice of it; especially as you can boast of having Lord Somerville, Sir John Sinclair, Sir George Mackenzie, and Lord knows how many more great proprietors, among your correspondents. Being disappointed in my expectation of some abler champion stepping forward in their behalf, I can no longer refrain from attempting the task myself, however unqualified for writing any thing fit to meet the public eye.

According to the doctrine of your Magazine, tenants should have long leases of 19 or 21 years, with full liberty to sell or transfer them, whenever, and to whomsoever they please, without asking the consent of, or even consulting, their landlords; and they are to pocket the *whole* advanced rent, because they improved the land; while their landlords, to whom it belongs, must not touch a single shilling for allowing them that valuable privilege. Now, supposing that I pay 10,000*l.* for a farm, and let it for 400*l.* a year to a tenant, who, in the first three or four years of a 21 years lease, by laying out 1000*l.* makes it worth 600*l.* a year; is it reasonable, or rather, is it not unconscionable, that he should have the right of thrusting any body he chooses upon *my* property, and drawing 200*l.* a year for paying out only 1000*l.*, and that I should submit to the grievance of a subtenant, and draw nothing, who have paid 10,000*l.*? Again, farmers now-a-days must have houses like palaces, and spacious courts of offices (of which you have most *obligingly* given different plans, all of them sufficiently expensive) built at the sole charge of their landlords. These cannot, at a fair average, cost less than 2000*l.*; which sum, with simple interest, on a farm of 1000*l.* a year, will amount to more than four years' rent on a lease of 21 years. Nor is this all; for, as the soil belongs to landlords, they should pay for all substantial preservatives and improvements of it, such as, mounds or dikes to defend against waters; ring-fences to bound the farm; enclosures, whether of stone or ditch and hedge; drains of marshes and morasses, especially such as contain marl; even thrashing machines should be erected by them; and it is insinuated, that, for money thus laid out, they should exact no interest at all, or at least a very moderate interest, because of the great additional rent they receive, and the lasting benefit they derive from their outlay. All this is mighty *liberal* to landlords. Well, their purses being thus spared, tenants can go over their farms so much sooner, and have the greater command of capital to purchase a suitable stock of cattle, sheep, and horses; to procure manure; to clean, drain, stone, pulverize and dress their fields; and to raise heavy crops of grain

for the market. Every thing being provided for them by their *liberal* landlords, the moment they can convert the produce of their lands into cash, they are in circumstances to live like princes, to keep hunters, and even to set up a carriage, and to entertain their friends and *liberal* landlords, not merely with the produce of their farms, but with rare and costly dishes, excellent wines, and a dessert of fruits. In a few years, perhaps, they may purchase estates, become freeholders, and be preferred to other advantageous leases, over higher bidders, by political (and consequently *liberal*) landlords, on account of their votes. Is there nothing ridiculous in all this? Do you not seriously think, Mr Conductor, that we landlords would be fully as well with 4000*l.* in our pockets, though our tenants were not to buy land, and though we were to want the honour of your encomiums upon our *liberality?*

I am far from being done yet;—more mischief follows. One farmer sets out in the style I have described; his neighbours, unaccustomed to such fare, dine with him. When the visit is returned, nothing will satisfy their wives and daughters, but an entertainment in kind. Poultry are strangled; a lamb or a calf is killed, if early in the season, or even a four years old wether, if remarkably fat; fish and game are sent for from a distance, if none can be got near at hand; and the servant-maid is ordered to bring a few bottles of red and white wines in her empty basket, when returning from selling the butter at the next market town: the whole family is thrown into bustle and confusion, with setting the room and sideboard in order, scrubbing the dishes, knives and forks, and dressing, first the dinner, and next themselves. This is only the beginning of evils. Such an exertion, once or twice in their lives, might suffice a sober, decent couple, well advanced in years. But young master, and the young misses, look a little higher. He prevails with his parents to take a fourth, or perhaps a third part of a pipe of port; then to take half of another; and, finally, to order a whole one: so that, by the time he sits at the foot of the table, he can offer his guests wine of this or the other *vintage.* A rivalry thus commences, not to raise the best crops, but to keep the best table, and to give the best drink. And they who entertain much company, and have not the secret of making a great show at little expense, may soon squander what should portion their daughters, instead of leaving them dependent on the brother, who heirs the lease, or bequeathing them a scanty pittance, scarcely sufficient to feed and clothe them. These, too, are the fruits of the *liberal* terms on which leases are granted. While they enrich one class beyond all disproportion, they keep the *noses* of another class at the *grindstone,* by tempting them to an extravagance altogether out of their line.

For

For I would ask, and ask seriously, if this way of living can be necessary, or in the least degree instrumental, to promote good husbandry? Can farmers see better, when a field is well or ill ploughed, after drinking port, than a jug of ale or a glass of whisky punch? Do they know better how their fattening cattle come on, after rising from a sumptuous dinner, than from simple and wholesome broth and meat? Can they take a more narrow inspection of their cows and calves, and sheep and lambs, when lolling in a gig or chaise, or mounted on a prancing steed, than when traversing their pastures on foot? Will their high roofed, and finely ceiled and nicely furnished dining-rooms and drawing-rooms, their polite visitors, and their fashionable hours, make them better judges how a plough, a cart, or a harrow, should be constructed or drawn—how turnips and potatoes should be hoed —when corn should be cut and led, and how it should be stacked, dressed, and sold—or render them more diligent or expert at any branch of their professional labour, than they would have been by snatching a hasty frugal meal, in a snug humble parlour, with their families, welcoming any chance-comer to a share of it, and hastening to oversee their agricultural operations? If things be so with farmers, sure I am, they are not so with us landlords, whether peers or humble commoners. You would form a very wrong opinion of us, were you to judge of our talents, respectability, or even our opulence, by our houses, or equipages, or tables. Did I not detest every thing like personality, I could mention numerous *living* instances, to prove incontestably, that they who inhabit the most magnificent dwellings are not the ablest statesmen, the greatest orators, or the cleverest fellows; and that they who fare most sumptuously, and shine most conspicuously in the highest circles of fashion, are not the most attentive either to their own private affairs, or to those of the public. And unless it be shown, as incontestibly, that large and elegant houses, and well furnished tables, produce an opposite effect on tenants, and contribute towards the substantial and lasting melioration of our farms, I can see no reason why we landlords should be so liberal of our money in building the one, or give such beneficial leases as will enable them to indulge in the other. For my own part, I solemnly declare, that should I at any time have as much money to spare, rather than employ it on farm-houses and offices, I will lay it out upon a *chapel of ease* or a *tabernacle*, from which I shall be surer of an ample return in this religious age, when a spirit of true piety is so much upon the increase, and has created so great a demand for places of worship, that I have heard of a proposal to convert a theatre, lately erected in a provincial town, into a house of prayer; and no part of Britain is so very poor

and graceless, that a landlord cannot draw a better return for his money in this way, than in accommodating farmers with stately edifices. At the same time, I was not a little struck and pleased with the ingenious use which some of the more sensible and enlightened tenants made of their landlord's generosity. They confined their own residence to the lower flat: the upper flats were employed by one for thrashing and laying up his corn—by another, were filled with wool, cheese, or grain—by a third, were let to labourers who wrought piecework on the farm or neighbourhood—by a fourth, were hired out for summer quarters to invalids, who brought furniture with them, and came to the country for milk, whey, or change of air—and, by a fifth, were given for a school and sleeping-room to a teacher, on condition of his own children being taught *gratis*. All these are pleasing instances of that judicious and economical management, by which tenants thrive, and are enabled to give higher rents for their farms, without drawing upon their landlord's liberality.

Besides these, I cannot conceive a single other purpose which can be served, by giving farm-houses of more than *one* story. In my younger days, the whole onstead consisted of a low dwelling-house, containing a kitchen, and a *but* and a *ben*, *i. e.* two apartments, both for sleeping, and the one entering through the other, —a byre at the one gable, and a stable at the other, to hold precisely the number of cattle and horses kept on the farm, and no more; and a barn, sometimes detached, and sometimes making part of the same row. The dung was laid down immediately before the door of the dwelling-house, at an equal distance from stable and byre, and very convenient both for receiving the dirty water, &c. without occasioning much trouble to the family, and for sending a salutary effluvium into the house, to strengthen the nerves against hypochondriac complaints, and a variety of disorders to which modern farmers are subject; for I am credibly informed, that among other improvements, besides being nervous, some of them have had the gout, and other *gentle* diseases, which were utterly unknown among their healthy predecessors. This good old practice is not altogether abandoned in the western part of Scotland; and, to say the truth, is abundantly suited to the style of farming there. But, where farms are of a moderate size, and pay a rent of 300*l.* a year, or more, the occupiers should be somewhat better accommodated. I should not think it too much to allow them an eating-room 15 or 16 feet square, with a sleeping-closet behind for a friend; a family-room in the other end, with two beds for the husband and wife, and such of the younger children as need a mother's eye, with a pantry and milch-house behind, and a kitchen jutting out backward. One half of the garret

ret might be coomceiled, and divided into two apartments, for the grown up boys and girls; the other set apart for holding wool, cheese, corn, meal, and such things; and the maids might sleep above the kitchen. Not a foot of offices should on any account be built, except what is absolutely requisite for the cattle and horses upon the farm. By obstinately refusing to give a single spare stall, you furnish tenants with an excellent excuse for declining to receive company, particularly night-lodgers, and thereby save the fodder and oats which strangers' horses would consume. You also relieve them from all obligation to spend any of their precious time in visiting and staying nights from home, and enable them to devote their whole time and undivided attention to their proper employment. The more that they stay at home, and the sharper that they look after their affairs, the more will they gain; and the more frugally they live, the more will they save; and, by their gainings and savings, the more will they be able to offer for new leases. In this case, landlords really pocket, as they ought, no small share of what, in other cases, tenants eat and drink, and spend needlessly.

I had almoſt neglected to mention another conveniency which modern farmers are in the habit of requiring, the very thought of which makes my blood boil ſo hot, as almoſt to throw me into a fever. They muſt, forſooth, have a water cloſet; and, in ſome inſtances, ſeparate ones for the maſters and miſſes, whoſe feelings are now become ſo faſtidiouſly delicate, as to refuſe to honour nature's bills according to the ancient faſhion. Do you think, Sir, that water cloſets are neceſſary in the houſe of a farmer, or that they are connected with good huſbandry? If you think ſo, I muſt tell you, Sir, that the buſineſs of farming was carried on more in character, when the *gudeman* and his family were to be ſeen in a morning making a regular addition to the *midden*, than now when they retire into water cloſets, as if aſhamed of what they were about. What the miſchief,—if you will have water cloſets, can't you erect them at your own coſt, and not trouble proprietors with an unneceſſary expenſe, for no better reaſon, than that your pretended delicate feelings may be gratified in thus forſaking the good old cuſtoms of your forefathers?

Think not, Sir, that I would impoſe upon tenants any hardſhip or privation, to which I would not ſubmit myſelf, and ſubject all other claſſes, eſpecially the clergy. I grant, that in remote and inacceſſible parts of Scotland, where there are no inns, and few paſſengers to require and compenſate for the erection of inns, it is highly expedient that gentlemen, farmers, and clergymen, ſhould have a ſpare bed and a ſpare ſtall to accommodate a traveller or a relation upon occaſions. Hoſpitality to man and beaſt becomes

then a duty. But in every cultivated and populous country, hoſpitality is downright nonſenſe. Where there is an inn within two or three miles of his houſe, the occupier muſt be a ſtranger to economy and common ſenſe, who does not ſend his viſitors and their horſes to it at night;—and if there be none, it is the joint intereſt of all concerned to build one. Indeed gentlemen, in fixing a ſituation for a new houſe, ſhould regard contiguity to an inn above all other conſiderations. They can cure dampneſs by draining, and obtain ſhelter by planting, much cheaper, and more profitably, than they can erect an inn and ſuitable ſtables: and, as for a grand or beautiful proſpect, their pampered gueſts will be much the better of walking a mile or two to find one. In ſhort, the benefits, both to individuals and to ſociety, would be incalculable, was only one half of the time which is at preſent fooliſhly ſpent in viſiting and dreſſing and goſſiping, and what the faſhionable world call ſocial amuſements, appropriated by every man to his own proper concerns: and this remark, which holds true of all ranks, is peculiarly applicable to farmers, to whom the ſmalleſt relaxation of diligence is ruin.

Perhaps it may be alleged, that the more company farmers entertain in their own houſes, they will ſpend the leſs in public ones. But what occaſion is there for either? Cannot they ſtay ſoberly at home; ſell their victual, or cattle, or ſheep, to purchaſers coming to look at and offer for them? or, if they muſt go to market, cannot they deſpatch their buſineſs there in the forenoon, and be home to a late dinner? By ſuch a conduct, they avoid all pocket expenſes, and can afford to ſell their commodities ſo much the cheaper, which cannot fail to bring them cuſtomers. The butcher, the baker, the miller, the cadger, will all reſort to them, certain of buying below market price. Many advantages attend this mode of doing buſineſs. Their goods are all delivered on the farm; paid for when delivered; and carried off at the coſt and riſk of the buyers. Here is another ſource of gain, from which farmers may be more *liberal* in their offers of rent for a renewal of their leaſes.

You ſee, Mr Conductor, that I am armed at all points againſt your arguments and objections. And I deſire you and your correſpondents to obſerve, that I have all along proceeded upon the ſuppoſition of farmers being too much of *gentlemen* to put their own hands to any work. Yet, where would be the mighty harm of their holding a plough, or driving a cart, or ſetting up ſtooks, or building ſtacks, upon an occaſion? Their hands, indeed, might be harder, their dreſs coarſer, and it might not be eaſy to diſtinguiſh them from their own hired labourers. But would not their horſes be better looked after, and more tenderly uſed? and would

not

not every kind of work be performed more expeditiouſly, and to better purpoſe? Nor would I reckon it any great degradation, though they ſhould in general eat with their ſervants. Their preſence would check groſs and fooliſh talking; their grave and ſolemn manner of ſaying grace and returning thanks, would preſerve and encourage a pious ſpirit; and their example might teach that decency of behaviour and that courteſy of manners, in which our lower ranks are ſo notoriouſly deficient. If, on the other hand, any of them ſhould be ſo very newfangled as to drop the old-faſhioned practice of acknowledging God at their meals, they might be reminded of that becoming duty in the ſociety of their ſervants. While moral purpoſes would thus be anſwered, it is difficult to conceive in what reſpects the intereſts of agriculture would ſuffer. Land would not be worſe ploughed, or more careleſsly cleaned; horſes would not fare worſe, or be harder wrought; the crop would not be more negligently reaped, or ſtacked, or thraſhed, or ſold; and rents would not be leſs, or worſe paid. Tenants, indeed, would not be ſo *liberally* treated; but they would not have the ſame deſire or reliſh for the *liberality* of their landlords.

I am, &c. &c.

A LAIRD.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Diſeaſe in Dogs called the Diſtemper.

SIR,

NEXT in eſtimation to the farmer's wife and horſe, follows his dog. I truſt, therefore, that you will not conſider the following communication foreign to the purpoſes of your far famed Magazine, or unworthy the attention of its editor.

There is perhaps no diſeaſe which has ſo frequently baffled the ſkill of the moſt experienced practitioners in animal medicine, as that called the *diſtemper* in dogs. The beſt account of its ſymptoms is, I believe, given by Blane; and, as far as my information extends, his medicines have proved more ſucceſsful than thoſe of any other perſon. Very, very often, however, do they fail of producing a cure; and this valuable animal dies a lingering and miſerable death. A pointer bitch, upon which I ſet a high value, was laſt autumn ſeized with the diſtemper. Immediate recourſe was had to Blane's medicines, but without effect. She continued to diſcharge acrid matter from the noſtrils, to ſtagger in her walk, like a perſon in liquor; her fleſh waſted, and at laſt ſhe became paralytic, dragging her hind legs; a ſymptom which Mr Blane conſiders, when happening in the latter part of the diſeaſe, as fa-

tal. Under theſe circumſtances, and when I was upon the point of ordering an end to be put to her miſeries, I ſaw her fall down among ſome graſs; and, upon going to the ſpot, I obſerved that ſhe was attempting, though in vain, to eat it. I took the hint which Nature gave, and ordered a handful of graſs to be cut in ſhreds of about half an inch long, and when mixed with butter, as a vehicle, to be put down the animal's throat. This doze was repeated three times every twenty-four hours. In a very few days, amendment was to be marked by an attentive eye; in a week, the progreſs was obvious to every byſtander; and, in fourteen days, the principal ſymptoms were in a great meaſure removed. The graſs was adminiſtered twice a day, for another week, and afterwards gradually diſcontinued. The bitch, by the end of the fifth week, was in excellent health; and ſhe has been lately in the way of becoming a mother. No viſible operation was produced by the graſs, except a more frequent diſcharge of viſcid phlegm from the throat than I had before obſerved. The bowels were not rendered lax; on the contrary, I was under the neceſſity of occaſionally giving ſome gentle medicine.

This caſe is ſolitary; but, as a cure pointed out by Nature, it ſurely merits attention; and I confeſs myſelf ſolicitous that it ſhould meet the public eye, that an opportunity may be afforded of making trials of a remedy, which is ſo entirely within every one's reach. It may be neceſſary, upon the diſeaſe being firſt obſerved, to give a table or deſert ſpoonful of ſalt, according to the ſize, which has the effect of making the dog ſick; and to follow it up by a few grains of calomel, as recommended by Mr Blane. Should the reſult of any trials be ſent to you, I hope you will have the goodneſs to give them a place in your Magazine.

I cannot deny myſelf the pleaſure which this communication affords me, of telling the Editor that I am a conſtant and attentive reader of the Farmer's Magazine, which, in my opinion, has far outſtripped every other publication, in forwarding the beſt intereſts of agriculture.

A KINCARDINESHIRE FREEHOLDER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts concerning the mode of Ploughing and Harrowing Land in wet weather.

SIR,

As the following mode of ploughing and harrowing land in wet weather, is not generally known, and as it has been found in practice very uſeful by the farmers of wet ſoils in this neighbourhood, I think it may be of advantage to communicate to you the following

ing account of it for publication. For ploughing in the way to be mentioned, the common plough drawn by the point of the beam, without any chain, anſwers very well, provided the muzzle is horizontal, and the iron to which it is attached by a nail at the point of the beam, is vertical or perpendicular. This iron, in ſome provincial dialects, gets the name of the *Leys* of the plough. The object in view is to throw the point of draught at the muzzle, ſo much to the right or furrow ſide of the plough, that a furrow ſlice can be eaſily taken with the two horſes walking in the furrow before each other, and not touching any part of the ploughed land at all. This is completely effected by removing the muzzle, the breadth betwixt its two claws, to the right or furrow ſide of the point of the beam; which is done as follows. A ſmall piece of wood muſt be procured, of ſuch a ſize as to fit in cloſely between the two claws of the muzzle, and prevent them from twiſting; and a hole muſt be then made through the wood oppoſite to the nail-holes in the muzzle, of ſuch a ſize as to receive the nail commonly uſed. This being done, the muzzle, with the piece of wood between its claws, is put on the furrow ſide of the point of the beam; and a long nail, of at leaſt the common thickneſs, being got, it is entered at the uſual hole on the land ſide of the iron at the point of the beam; then through the correſponding hole on the oppoſite or furrow ſide; and then through the two claws of the muzzle with the wood between them, the length of the nail being calculated, ſo as to make the point of it project about an inch beyond the furrow ſide of the muzzle. The muzzle is now in the proper poſition; but it is obvious that it wants ſome ſupport on the outer ſide, at the point of the nail, to keep it firm in that poſition. This is done by an iron chain of two or three feet long, the outer link of which is hooked over the projecting point of the nail, and the other end of it fixed to the beam, a few inches before the coulter, by a ſtaple, or other contrivance; after which, the plough may be yoked. By this very cheap and ſimple apparatus, it will be found that as good a ſlice may be cut, with the two horſes going in the furrow, as can be done in the common way, and that without leaving the impreſſion of a horſe's foot on the whole field, except the ſide ridges. It is almoſt unneceſſary to obſerve, that traces muſt be got for the fore horſe, and a boy to drive. It will alſo occur to every perſon acquainted with ploughing, that in taking out the laſt ſlice of the ridge, on clearing the furrow, the plough will be more immediately behind the horſes, than in turning the others. This requires an alteration; but the horizontal niches of the muzzle will be found ſufficient to anſwer the purpoſe.

In ſowing wheat on wet land, a mode is followed of harrowing

rowing with a pole, which is alſo perfectly effectual in preſerving the ground from injury by poaching. For this purpoſe, the ridges muſt not exceed twelve feet in breadth; which is by many thought ſufficient for wet land at any rate, ſo as to be covered by three harrows. A ſtrong wooden pole is then procured, equal in length to the breadth of the ridge, to which three harrows are attached, one in the middle, and one near each extremity. Two horſes are then yoked, one to each end of the pole, and driven along the two furrows, by which the intervening ridge is harrowed. In this operation, it is found proper, in order to keep the ſides of the common harrows parallel to each other, to keep one of the horſes about three feet before the other, which has the deſired effect; and, at the end of a ridge, in place of turning ſhort to the one next it, to turn round to each alternate ridge, which gives room for a better ſweep, and keeps the harrows from entangling.

By theſe means, a good deal of wheat was ſown in this neighbourhood in December laſt, where it would have been quite impracticable in any other way: the ground was completely preſerved from poaching, and the braird at preſent looks very promiſing, and ſufficiently thick. No perſon would truſt to this method ſo far as to loſe any favourable opportunity of ſowing when the ground is dry; but experience has ſhown, that, in this wet climate, ſeaſons often occur when wet land cannot be ſown with wheat in the uſual way, though completely prepared; and in ſuch a ſituation, the method detailed is of great uſe. The mode of ploughing mentioned may alſo be adopted in every caſe, where it is deſireable to carry forward ploughing on land too wet for the ordinary proceſs; and it is obſerved, that if done early in the ſeaſon, the occurrence of froſt afterwards does away in a great meaſure the bad conſequences which generally follow wet ploughing. I am, &c.

R. M.

Dunbarton, 15th March, 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Pleaſures of Rural Life.

Vivere naturæ ſi convenienter oportet,
Ponendæque domo quærenda eſt area primùm,
Novistine locum potiorem rure beato?
Eſt ubi plus tepeant hiemes? Ubi gratior aura
Leniat et rabiem Canis, et momenta Leonis,
Cum ſemel accepit Solem furibundus acutum?
Eſt ubi depellat ſomnos minus invida cura?
Deteriùs Libycis olet aut nitet herba lapillis?
Purior in vicis aqua tendit rumpere plumbum,

Quàm,

Quàm, quæ per pronum trepidat cum murmure rivum?
Nempe inter varias nutritur ſilva columnas:
Laudaturque domus, longos quæ proſpicit agros.
Naturam expelles furca; tamen usque recurret,
Et mala perrumpet furtim faſtidia victrix.

HOR. Ep. ad Fusc. I. 10.

SIR,

IN every nation and in every ſtage of ſociety, agriculture has drawn mankind ſo irreſiſtibly to its purſuit, that from this circumſtance alone, it may be eſteemed the real natural occupation of the human race. Many other employments have, no doubt, their pleaſures as well as their pains, which are beſt eſtimated by thoſe who are deſtined to paſs their lives in proſecuting them; but agriculture, though followed profeſſionally by a part, is the ſofteſt ſolace, and the moſt enviable aim, of all the reſt of mankind, without diſtinction of rank, of riches, or of profeſſion. The mechanic ſighs for the moment when he may be enabled to reſume his early habits in the country; the labours of the counting-houſe and of the bar, are equally ſtimulated by the deſire of haſtening the period of rural retreat; and even the glory of their occupation cannot ſmother this natural propenſity in the breaſts of thoſe whoſe lot it is to encounter the dangers of the field of battle, or of the ocean. Diſſimilar from the reſt of their ſpecies in all their habits, except this maſter-paſſion, they look forward to an honourable eſtabliſhment in the country as their beſt reward, and as the point to which all their exertions are directed. It may perhaps be juſtly obſerved, that that which is not intrinſically excellent, can only in one, or in certain points of view, appear to advantage; but that no ſituation or train of circumſtances can hurt the luſtre, or impair the eligibility of that which is entirely excellent in its nature. Thus is the retreat of the country equally ſalutary and ſolacing to the proſperous and to the unfortunate. The heat and the fever of the moſt brilliant career of good fortune, which even fatigues and intoxicates, creates the moſt ardent deſire for the enjoyment of the eaſe, the refinement of mind, and the cool poſſeſſion of reaſon which the country alone affords; and the ſtings of misfortune which are ſo painfully felt, and which become intolerable amidſt the glare and noiſe of the buſy world, gradually loſe their poiſon in the ſhade of rural retirement, where, indeed, an upright man will ever be able to mould his happineſs to his wiſh.

'Tis there celeſtial wiſdom calms the mind,
And makes the happiness it does not find.'

Health, which is ſo necessary for the happiness of mankind, and which is ſo profuſely ſquandered amidſt intemperate revels,

vels, and from the very nature of a town life, is alone to be lured back by following the more congenial avocations of the country; the mind recovers its pristine tone of energy, and the body, from being emaciated and sickly, becomes healthy and invigorated. Amidst the constant frivolous, mercenary, or malicious pursuits of men cooped up in cities, the mind insensibly loses its proper elevation, and becomes truly base and vicious; but that man has little estimable in his nature, whose faculties are not purified and elevated amidst rural scenes. What degree of insensibility must he not possess, who is not, upon the first return of the soft and cheerful influence of spring, raised with enthusiastic gratitude to his Maker,—who can, unmoved, behold all nature starting into life and fertility, fresh in youth and in beauty,—the whole creation renovated, and ascending to perfection, as if it had never suffered, or never was to suffer decay,—its luxuriance and prime of vigour, its golden maturity, and its soothing and sympathetic decline? The man who is not moved by these, has surely no music in his soul, and must be fit for all the enormities which Shakespeare supposes to exist in such obdurate temperaments as are insensible to melody of sound.

Another advantage of these pleasures of the country, is, that they are lasting to the imagination; and, after the lapse of many years, are capable of affording perhaps a warmer satisfaction in memory, than in reality they did at first. This is not the case with those of cities, which invariably leave little to interest, and generally produce disgust and shame upon the retrospect. In short, the first seems to be the constant source of manly and innocent pleasure, and the last of disappointment and lasting misery. But the pleasures of the rural life are not only felt in every situation, either in reality or in imagination, by those who have received from the cradle those impressions which the natives of the country first imbibe; but such is the natural bias of the human race, that those who have drawn their first breath, and passed their earliest years amidst the smoke of cities, evince an evident and unconquerable propensity towards an emancipation from a slavery to which they seem reluctantly to submit; as those animals which are brought up in habits dissimilar to their nature in a domestic state, want only the convenient opportunity to show how much they have been constrained, and how much more they delight, even in want and liberty, than in dependence and luxury. This partiality to the country in persons whose habits have even been confined to the streets of large cities, has afforded many scenes full of ridicule, both upon the stage and within the range of anecdote. Ignorance, when assuming the privileges of knowledge, must ever be contemptible, and often laughable; but it is certainly

certainly unjust to condemn, even to ridicule, the man who only follows awkwardly the most congenial avocations of his nature, and from an intimate acquaintance with which, he has been debarred by no fault of his own. It may be remarked, that love, which forms the most important epochs in the life of almost every man, is certainly not a native of the town, but of the country. The shepherd, in Virgil, found it a native of the rocks. This passion, in all its delicacy and charms, requires the peace and the sympathy of rural scenery to nourish it. Amidst the sensual riot and the delirium of the busy haunts of men, it cannot exist. Every thing, in the first, tends to refine, to beautify, and to rivet this delightful passion. While, on the contrary, it is impossible, in its genuine state, to have the smallest foundation in the latter, where every thing conspires to blunt the best feelings of the mind, and to render it ridiculous.

It is true, that, with many dispositions, the country affords not the charms which it does to the generality of mankind; it presents to these a disgusting tedium, and a vacancy which they do not feel amidst the more turbulent scenes of society: But it may be truly remarked, that these persons have not to blame the wearisomeness of the country for their feelings, but the depravity of their own habits, which, being accustomed to the most violent provocatives, are insensible to those placid joys which neither stimulate nor fatigue by exciting to the utmost. It was the well known remark of a celebrated and intriguing French lady, when in the country, 'that, for her part, she never could enjoy *ces amusements honnêtes;*' and those of the same way of thinking, had certainly better look for enjoyments to their taste, where they can most easily meet with them, than run to disappointment and chagrin in the pursuit of rural felicity. Many, by having formed romantic and childish notions of country morals and happiness, are, upon the first discovery of the reality not being equal to the chimerical ideas they had formed, disgusted for ever at what they had once so fondly cherished: But, surely, such persons have likewise themselves to blame for their weakness and want of knowledge of human nature, which admits not of any degree approaching perfection, either in virtue or felicity. If, therefore, they have found knavery and strife to be the produce of rural as well as urban life, they ought at least to investigate in what proportion they abound in each; and if the comparison is fairly made, they will find little room for complaint against the country. Since we cannot attain perfection, we ought to give the palm to the nearest approach to it; and certainly, of the two, the preference will not be found upon the side of the inhabitants of cities.

I have several times remarked, that habits of rural life have prevailed to a very considerable degree in towns of a certain magnitude, not exceeding eight or ten thousand inhabitants. In the vicinity of these, I have observed that the demand for land to accommodate those of such habits has been very great; and that this has occasioned a very high rent to be paid for lands at a convenient distance; while, on the other hand, I have had occasion to remark, that the great cities do not possess a population which pays much attention to agriculture. The natural manners of the country, in the first case, predominate over the acquired customs and propensities of the cities; while, in the last, the intensity of the train of thinking and acting peculiar to cities, entirely absorbs into its vortex every part of the population; so that regular, large farms, often come nearer to the suburbs of them, than to the vicinity of smaller towns. From my own situation, I have been led into a pretty minute observation of the habits of people possessing small pieces of ground near a town of considerable magnitude in my close neighbourhood; and it is astonishing, to what a height of rent and of labour these poor people will go, merely (though they are not sensible of the cause), that they may have their natural inclination indulged, of passing part of their time in rural employment. These persons readily pay as high as six, and even seven guineas, for an acre of land, in order to put it under potatoes, if the distance is not great. Now, including their manure, seed, and the expense of horses, (leaving their personal labour entirely out of view), it is absolutely impossible that their crop can anywise reimburse them. This I have often told them, and brought the calculation fairly against them. They had little to urge against what I advanced; but they persisted in asserting that they liked to have the produce of their own labour, better than to spend their money in the market. A very inconsiderable difference in distance makes a very great difference in the value of lands, which derive their demand from the taste of persons of the description I have mentioned. When the walk is to be a little extended, three or four pounds is reckoned a great rent; a little further, the land must be given gratis; further still, it must be ploughed by the proprietor; and, lastly, the dung must be carried by the proprietor to remote places, the land ploughed, and the crop carried home—the land being given free. This plainly demonstrates to my mind, that these persons pay for the liberty of having scope for the relaxation of rural labour, as much as others pay for diversions of different sorts; and certainly, artizans, and persons of sedentary occupations, derive both health and happiness from the hours which they devote to the enjoyment of exercise and calmness in the fields, that perhaps are well worth

worth the price which they pay for them. The value, or rather the rent paid for land, has struck me as being inexplicable to reason; and unless the manners of the people are taken into the scale, I am certain that no arguments or elucidations whatever, can explain this subject, with all the facts which may be brought forward, connected with it.

I once made it my study to ascertain the average rent of lands near the great towns on the road from Edinburgh to London—from London to Bath—and in the county of Kent. About Durham, I found it to be about five pounds per acre; at Ferrybridge only three pounds; at Stamford, still lower; at Bugden, thirty or forty shillings. In the counties bordering the London and Bath roads, ten years ago, it was about twenty-five shillings. At Eltham, in Kent, only nine miles from London, I found a tenant in long possession at sixteen shillings; and he thought that the rise he offered up to twenty shillings, was a great rent. Close to Margate, the lands were at twenty shillings, till within these very few years, when they have been let at forty. About Canterbury, Sandwich, and Ashford, nearly the same; around the two last, indeed, rather lower. All these Kentish lands were of the best soil in the county, and laboured to the best advantage; and I had particular occasion to be well acquainted with the circumstances I state regarding them, as they belonged to a gentleman of whom I made the inquiry. This inequality of rent is truly wonderful, if we suppose, as is the case, that the soil is excellent in all the cases stated; and, I apprehend, can only be explained by the supposition, that in these counties, the other avocations of the people make them perfectly unwilling to engage in rural labour, unless their profits are so large as to allow them a great latitude of expensive living. The poor's rates and tithes cannot account for such a lowness of rent, where it might be expected to be very high. In my own neighbourhood, I am not at all surprised, that, considering the avidity with which our townspeople take lands for their potatoes, the occupiers of fields make the business profitable, even at the high rents they pay;—because they have no constant farm establishment to keep up;—they have other employments, from which they derive profit;—they have their lands put into heart, even at the high rent they have to pay the landlord, the first year;—the second, they are sure, without manure, of ten or a dozen bolls of wheat or barley per acre; and, for three years thereafter, of a grass crop, which will average ten or twelve guineas, without putting them to the smallest cost or trouble;—the breaking up the grass land insures a good crop of oats or wheat, probably worth twelve guineas. So that, when the land requires new energy, they have only to let it out, as at first,

first, to the cultivators of potatoes, without trouble or expense, and often with profit to themselves. When this is compared with the privations, and the vast labour and shifts which farmers, in the districts far from population and arbitrary demand, are exposed to, the great difference in the value of the respective lands will not appear strange. I should, however, be sorry if any thing I have said should be reckoned an apology for the demand of high rents for land: such demands are so much recommended by self-interest, and often by the urgency of a proprietor's expenses, that it would be quite superfluous, and indeed ungracious, to write in favour of them. If we suppose the proper rent to be one third part of the produce of the acre, which I believe to be the ratio now received, it is certain that it is the highest acknowledged rate of apportioning the master's share, which we hear of among modern or ancient nations; for the proportion of one fifth, and even one tenth, will often be met with as the part due from the cultivators for the use of the land, both in ancient and modern times. Nothing, indeed, tends more to the varying the state of the prices of every thing useful to mankind, than the rises and fluctuations in the rent and produce of land. These may be reckoned to be on one side, and every other article, both in respect to manufactures and bodily and mental labour, on the other. Should a maximum be placed upon either, it would soon lose its due value, if the other was not incumbered with something similar. But as the price of land and its produce, may be said to pour into the scale in one great stream, while the other can only be gradually and imperceptibly filled from unseen and small rivulets, the result must be, that the rise of land will even be more active and decisive in adding to the prices of the necessaries of life, than the latter can immediately create an apology for the exorbitant demand of high and uncommon rents.

Being, Sir, a real lover of the country, and of all the pleasures and labours of a country life,—having lived considerably and reluctantly in cities,—I have presumed to send these observations, in case you may deem them worthy of a corner of your Magazine; and I shall conclude with honest Horace's fervent wish towards the country, which has often been mine,

O rus, quando ego te aspiciam? quandoque licebit
Nunc veterum libris, nunc somno et inertibus horis
Ducere solicitæ jucundi oblivia vitæ?

I am, Sir,
Your constant reader,
SEVERUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

An Inquiry into the Causes of the late Rise in the Value of Land.

SIR,

THE late rise in the value of land has excited considerable speculation in the world; but I have not seen any attempt to account for so very extraordinary a circumstance. The subject, confessedly, is of the highest importance, and deserves to be investigated. I do not pretend, in what I am about to offer to your notice, to have exhausted so extensive a field; but I flatter myself that none of your readers will close the perusal of this inquiry, without being sensible of having learnt something.

The causes of the rise are numerous; and to treat each of them to its full extent, would require more room in your Magazine, than can with propriety be spared. I write, therefore, more in the way of provoking discussion, than of pretending to illustrate these causes; some of them being of a doubtful, and others of an abstruse nature. It may be found also, that the different causes are not arranged in so regular or philosophical an order as could have been wished; but it will be no difficult matter for the reader to place them properly in his own mind.

1*st* Cause—'*The Quantity of Land in Great Britain is fixed, and, from the nature of the thing, incapable of increase, while the Wealth or Money of the Country, on the other hand, has been augmenting in a very considerable ratio.*' Great Britain contains exactly the same number of square acres now that it did 5000 years ago. The wealth of the country, however, that is to say, the number of pounds Sterling, whether in the more solid form of gold, or in the apparently perishable shape of paper, has been infinitely increased in point of quantity within these five years. Supposing, for the figures are of no earthly consequence, that in Britain there were, in the first year of our way of computing time, ten millions of superficial acres, and that the money, the thing to be given for it, by the purchaser to the seller, was exactly 10 millions of pounds. This statement is merely for the purpose of showing the proportion which the land is supposed to bear to the money. Upon this supposition, the quantity of land and money being identically the same, one acre for every pound, they stand in relation to one another as one is to one, or, in other words, that the two are equal. The land and money, therefore, may be said to possess an equal value, or that an acre of the one is worth just a pound Sterling of the other. We all know very well, that the exchangeable value of one article with another, depends upon the relative proportion between the two in respect to quantity, limited, however, by the *quantum* of demand upon the

part of intending purchasers. This is the only circumstance that possibly can affect, in the most remote degree, the principle I have just been stating. As the whole of the one goes for the whole of the other, it cannot be otherwise. It is not less true than that six and half a dozen are the selfsame number differently expressed. In the 1808, we find the number of square acres to be exactly the same as they were 5000 years ago, that is, ten millions; but the money has increased in quantity from ten, to one hundred millions. In these good old times, our ancestors gave what is now called a twenty shilling note for an acre of land; and we, their children, now pay ten times the sum for the same quantity.

It is for the very plain and simple reason I have just now stated, that a purchase of land, in an improving country, must unavoidably turn out a profitable speculation, upon the supposition of its making a return to the buyer of *5 per cent.* from the outset. Upon the selfsame principle, too, money invested upon heritable security must ultimately be a losing business; and, at the termination of a certain number of years, the monied man will have lost just as much as the landed proprietor has gained. It must be remarked, however, that the gain of the latter is not of the abstract or positive kind, but only of the relative or negative species. In relation to another landholder, he is, in this point of view, no gainer; for an acre of his land is worth just the same as a like quantity belonging to another of the same value. A and B, therefore, *qua* landholders, are equally rich in the year one, as in the year 1808; for the quantity of land being precisely the same at both periods, if an acre of the one comes to be exchanged for the like superficies of the other, the one, *cæteris paribus*, will go just for the other. Quantity, not quality, is at present in view. There is, therefore, no increase in the real value of the thing itself,—no abstract positive augmentation of value; for, when compared with itself, it is identically the same at both periods. When land, however, comes to be given away for money, or put in comparison with that commodity, we find that it has now become ten times more valuable than it was 5000 years ago. In its exchangeable or relative capacity, then, it has increased in a tenfold degree. Individual wealth, economists know, is merely comparative or relative, when a nation, or any collection of individuals, is under consideration. For example, if every individual was worth 1000*l.*, each would, no doubt, be possessed of wealth to that amount; but, in a comparison of the riches of the whole body, it would be found that the wealth of A and that of B was the same, or, in other words, that no one is richer than another. Were we to suppose national wealth to be represented wholly by money, and no part of it in the

the form of land, in that case none of the individuals in the community would be gainers or losers by the increase or augmentation that has taken place in the quantity of money. But the wealth of a country is represented, among other things, by land as well as by money; those persons, therefore, who invest their property in land, will, at a particular period, be comparatively richer than those who retain it in the shape of money, or who have lent it out upon personal or heritable security. The one began to improve, the moment it was laid out upon the purchase of land, and the other to fall off, the instant it was lent out to the borrower. In a comparative point of view, therefore, of the two, land and money, the former is the more valuable of the two, or, in other words, that the proprietor of the one, A, is certain of being richer in the above sense than the holder of the other, B, at a determinate period. This is because land, from remaining stationary as to quantity, comes to be of more value than money, from its augmenting as to quantity.

2*d* Cause—'*A greater quantity of Agricultural Capital.*' It is universally admitted, now, that a farmer gets out of land exactly in proportion as he puts into it. The amount again of what he consigns into the bosom of the earth, is in proportion to the extent of his capital. *Ex nihilo nihil fit.* If a farmer undertakes the cultivation of 500 acres of land, with a capital of 500l., he can raise a certain number of bolls, or feed a limited number of cattle only. The profit that the agriculturist derives from the land which he cultivates, is in proportion precisely to its produce, whether that be in grain or cattle. The rent, again, which he comes under an engagement to pay to the landlord, must be limited, in its amount, to the profit that he draws from the farm. I shall suppose that the profit which he makes, and the rent which he pays to the proprietor, the same sum, 100l. each. Under this mode of management then, the lands in question, are worth no more than 3000l. Sterling, being the amount of the rent multiplied by 30 years purchase. From a want of capital, he is unable to drain the land, to enclose it, to manure it, and to execute a thousand other improvements of a like nature, which his better sense has taught him would quadruple the produce of his farm, and with it the profit to himself, and the rent to his landlord. Instead of raising, for example, crops of wheat and beans alternately, he is, from a want of capital, under the necessity, perhaps, of being satisfied with a crop of oats, afterwards one of hay, and to pasture the land for several years, until nature has renovated it to such a degree, as to render it capable of producing oats with little or no application of manure. Under this pitiful management, the capability of the land is unknown, and its pro-

ductive powers repreſſed by the want of capital, judiciouſly applied to its improvement. Suppoſing that this ſaid farm of 500 acres ſhould produce to the farmer 500l. of profit, and to the landlord the like ſum in rent, (and this caſe is by no means improbable,) by a proper application of capital, in manuring, draining, &c.; then, upon the ſame data as the other, it would bring 15,000l. inſtead of 3000l. when brought to the hammer. It is upon this principle, in ſome meaſure, that we find an incoming tenant realize money from a farm, which yielded but a miſerable pittance to the one who left it. The latter drew from the land merely what his ſmall capital enabled him to put into it, and the other all that the land was capable of producing, under a liberal and enlightened mode of management. It will be admitted, I preſume, that an infinitely greater capital is now inveſted in farming, than in former times; and, therefore, upon the foregoing reaſoning, which is incontrovertible, the late unexampled riſe in the value of land, is partly to be attributed to the above circumſtance.

3*d* Cauſe—'*An improved Cultivation of the Soil.*' There has been, of late years, a wonderful improvement in the cultivation of land, and we have uniformly ſeen a correſponding increaſe in the value of the raw material, go hand in hand with it. If too little manure be applied, or if, from ignorance, it is not properly mixed with the ſoil; in either of theſe caſes, a crop ſo abundant will not be raiſed, as when a proper quantity has been adminiſtered. A great deal has of late years been done in the article of manuring the ſoil, and uniformly with the effect of producing greater crops to the farmer, and of courſe a higher rent to the landlord. Farmers now attend infinitely more to the draining of land, which not only improves it by the removal of ſuperabundant moiſture, but permits the manure to operate in full force. They are alſo ſatisfied of the incalculable importance of encloſures, which admit of a regular rotation of crops, in the fulleſt and completeſt manner; by which the produce of the farm is greatly increased, and the ſame return made from it in a much more economical way. But, without entering into particulars, we have only to compare the agriculture of East Lothian with that of Argyleshire, to be ſenſible of the effects of an enlightened style of farming upon the value of land. No doubt, the climate and ſoil of the former is, in many reſpects, more adapted to cultivation than that of the latter; but ſtill the vaſtly heavier produce of the one is to be attributed, in a very great degree, to the ſuperior mode of management of the ſoil. Indeed, it is a waſte of time to prove, that good farming will produce more grain *cæteris paribus* than bad. It is one of those ſelf-evident

dent propositions which no demonstration can make clearer than it is at first sight.

4*th* Cause—'*An Abridgement of Human and Animal Labour employed in the Culture of the Soil.*' The produce of land is generally divided into three portions; 1*st*, Expense of farming; 2*d*, Rent to the landlord; and, 3*d*, Profit to the farmer. It is not my business at present to inquire into the accuracy of this division of the total produce, and, in particular, if the allowance for the first article be too high or too low. One thing is certain, and that is enough for my purpose, that expenses are really incurred in the cultivation of the soil. Those expenses are necessarily a deduction from the others; therefore, if there were none at all, or if they were less, both the landlord's rent and the farmer's profit would be greater. If in a particular farm, for example, the annual expenses were 200*l.*, and the rent and profit as much, it would, of course, follow, that if there was a saving upon the first of 100*l.* a year, the two last would be greater by, we shall suppose, 50*l.* a piece. The land, therefore, when brought to sale would, in addition to its former value of 6000*l.*, the rent multiplied by thirty years purchase, bring the further sum of 1500*l.*, the saving of 50*l.* multiplied by the same number of years purchase. By the introduction of the thrashing-mill human labour has been considerably abridged, and by a more economical use of horses in agriculture farming expense has been considerably lessened, and, of course, the other two augmented in a similar proportion. Were it possible to economize human and animal labour, as much in agriculture as it has been done in manufactures, land would rise prodigiously in value; for the expenses attending its cultivation are great, and yearly upon the increase. In this way a little has been done, and there can be no doubt that much will hereafter be performed by ingenious and enterprizing people, in an age superior to all that has gone before it in industry and talent. There is, perhaps, no improvement better calculated to abridge human and animal labour than roads and canals. This must be sufficiently evident to any person who will take the trouble of recollecting, when land-carriage, for the want of roads, was conducted wholly upon the backs of horses, and compare it with the prodigious heavy loads now drawn by the same animals upon a turnpike road. It is partly for this reason that land in the neighbourhood of a large town lets higher than ground of equal value twenty miles off; because the additional land-carriage necessary in the one is wholly saved in the other instance.

5*th* Cause—'*The introduction of Turnip Husbandry, and other new and improved modes of Cultivation of the Land.*' A superior

perior mode of cultivating wheat and other crops, already known, as raising the value of land by increasing its produce, has been already treated of. The introduction of the turnip husbandry and other green crops, though a different cause, has precisely the same effect, and in the very identical way, by increasing the produce of the soil. Before the use of green crops, the common rotation of farms, if it can be dignified with such an appellation, was to rob the land by taking white crops in succession so long as the returns would compensate the expense of seed and labour. When thus about to expire under the hands of the doctor, it was suffered, from necessity, to remain for a number of years in a miserable unproductive state, until it recovered itself in the best way it could. By this mode of farming, it is very evident that land under such vile treatment was capable of producing but little corn or grass, in comparison of what it might do under a more enlightened management. Until the introduction of green crops, it was impossible to practise that just rotation of tillage, which, by combining in their proper proportions, the white and green kinds of culture, seems the best adapted of any to produce the greatest quantity of vegetable and animal food. The quantity of manure on hand, without which land cannot be cultivated to any advantage either to landlord or tenant, could not be augmented under such policy, and, therefore, the further improvement of the soil was totally at a stand. Besides, even the ground for which the farmer happened to have manure, could not, in many instances, be kept clean and in perfect condition, without the assistance of summer and winter fallows. This sleep of nature yet returns too often in many parts of the country, to the great injury of the public, and of individuals themselves. The green husbandry, however, possesses the property both of cleaning the soil, and augmenting its produce, and by that means banishing, in a great measure, the necessity of fallows. I can easily conceive, that by the complete extension of green crops over the whole surface of the country, a quantity of manure may be produced sufficient to raise white and green crops every where, and render it unnecessary for the farmer to depasture his ground during a series of years for the purpose of renovation. When this very simple combination has taken place, the quantity of vegetable and animal food produced by the land has reached its *acme*. With this augmentation in the produce, it has been shown, the value of land also rises. To what extent this additional value may be attributed to the introduction of the green husbandry, it is impossible for me to speak; but that much is owing to it, there cannot be the smallest dubiety.

biety. This is sufficient for my present purpose; and it is needless to be proving more than what is necessary for the occasion.

6*th* Cause—'*A more liberal connexion between landlord and tenant than heretofore.*' In proportion as proprietors of land become enlightened upon the subject of agriculture, the connexion between the landlord and tenant becomes more and more liberal. I should humbly apprehend, that all which a landlord has to take care of, in the letting of his land, is to procure the highest rent from the best man; and to take the tenant bound, in case of removal, to leave the farm in the same condition it would have been, had he remained in possession of the ground, so as that the new incomer may be able to carry on the same, or an improved mode of cultivation, without any extra expense. For my part, I cannot conceive how the *real* and *actual* interests of these two classes of people can ever differ, though their *supposed* ones often may. It would require too much time to demonstrate the propriety of allowing tenants to subset,—the absurdity of tying them down to a particular rotation or mode of cropping, except towards the end of the tack,—and a thousand other circumstances of a like nature; all of which affect, more or less, the melioration of the soil, and of course the interests both of landlord and tenant. I take it for granted, that every thing that is advantageous to the tenant, and not injurious to the landlord, ought to be freely permitted to the former. I apprehend, that beyond this point the tenant cannot be a gainer, without, at the same time, a corresponding benefit attaching itself to the proprietor. The truth is, that the interests of these two classes of people are identified in each other; the one, to be sure, temporary, and the other perpetual. With the simple difference of permanency, they are in all other respects alike.

7*th* Cause—'*Freedom from tithes, and other burdens affecting agricultural industry.*' What I have just been speaking of, is in regard to the connexion between landlord and tenant, or, in other words, between one individual and another. There subsists, however, another species of relationship, between the cultivator of the ground, and the political government under which he lives; that is to say, the State. The one is a personal, and the other a political bond of connexion. I flatter myself that I have shown, that the more liberal the connexion between the landlord and tenant may be, or, in other words, the more that the industry of the latter is left untouched, the higher will land rise in value. Now, it is very evident, that, if the value of land depends upon the industry of the tenant being free and unincumbered, it is of no consequence in which way, or by what power, it is affected, whether by the landlord or by the State. We all

know, that in the southern part of this island, tithes are a heavy load upon the industry of the farmer, having in fact retarded the amelioration of the soil in many places. I shall not here enter upon the question of tithes as a system, because such a discussion is not relevant to the point at issue. Suffice it to say, that if tithes be, and it will not be denied that they are, prejudicial to the industry of the occupier of land, they of course will act as a compressing power upon land, which would otherwise rise in value. In this northern part of the island, tithes are not known, at least in the very obnoxious sense of which we have been talking. They are a burden, no doubt, upon the land itself, but none in the world upon the cultivator of it. In Scotland, they can be no bar to improvement, because the interest held by the Church in the land, has no other effect than that of producing two sets of landed proprietors instead of one, the clergy and the laity. To those at all acquainted with the past and present state of agriculture in Scotland and England, the very superior style of management of the former, within these few years, must be peculiarly striking. We all know very well that the natural and physical advantages are all upon the side of England; and of course we must look for the cause of this manifest superiority into the moral and political condition of the occupiers of land in both places. In freedom from tythes, therefore, we can easily account for part at least of the more finished agriculture of the north over that of the south. If land be better cultivated, the produce will be greater, and with that the value of land will always be upon the increase.

8*th* Cause—'*Land being now cultivated in large instead of small farms as formerly.*' It has long been a matter of dispute, whether large or small farms be the most beneficial to the community. Without entering into so wide a field of controversy, I believe it will be admitted on all hands, that, in two respects at least, they materially differ. A large arable farm, say of 1000 acres, admits of being managed with a smaller number of hands, and in every respect in a more economical way, than the same quantity of ground in twenty different farms of 50 acres each. This, I presume, will not be disputed by the warmest admirer of the small-farm system. Indeed, it is admitted by them; for the loudest complaint against large farms is, that they have a tendency to depopulate the country, or, in other words, that fewer people are necessary upon large than upon small farms. This being admitted, it follows as a necessary consequence, that, even supposing the produce of this large farm not to be greater than the other twenty, still, on account of the more economical management of the former over the latter, there will remain a much greater quantity

quantity of diſpoſeable grain for the market; or, in other words, that there will be, after paying the expenſes of production, a larger fund to be divided between the proprietor and tenant. As rent is the barometer of the value of land, and as that is greater in the inſtance of a large than in that of a ſmall farm, it is perfectly evident, that though the groſs produce may not be greater, the rent of the land, and of courſe its value or price, muſt be higher.

It will hardly be denied, that a farmer upon a great ſcale is poſſeſſed of more capital and knowledge than one upon a farm of ſmall extent. Independently of the common-ſenſe argument, which teaches us, that a man of talents and capital will not be idiot enough to waſte his time in the cultivation of 50 acres of ground, we have merely to look at the fact, to be ſenſible of the truth of the remark. Accordingly, we everywhere find large farms in the hands of people of capital and ſkill. A man with limited funds cannot undertake a large concern with any proſpect of ſucceſs; for, independent of the want of capital, his head would grow giddy at the contemplation of the magnitude of the buſineſs. It is an axiom in all manufacturing eſtabliſhments, that the profits of the individual are for ever in proportion to the amount of his capital, and the *ratio* of his ſkill. Indeed, upon what other principle can the circumſtance of profit hinge? for capital and ſkill are the only two agents employed in the formation of it. This holds in agriculture as well as in all other manufactures. If, therefore, a large farmer makes more money than a ſmaller, by raiſing a greater quantity of produce from the ſame breadth of land, the proprietor will in like manner reap a benefit in the augmented value of the ſoil. The value of the land, as has been ſhown, is always in proportion to the produce, and that, again, to the *quantum* of capital and ſkill poſſeſſed by the farmer. No doubt, while the tenant is in poſſeſſion, he will reap the benefit wholly and entirely; but the landlord will ſtep into his ſhoes at the expiry of the leaſe. Large farms, then, in conſequence of being managed with more capital and ſkill, not only raiſe a greater quantity of grain, but have, by a more economical mode of management, a larger diſpoſeable produce for market. In the former of theſe, the quantity of grain in the country is really and truly augmented; and in the latter, leſs of the raw material is conſumed in the production of the ſame quantity. In both ways, it is perfectly clear, that the large-farm ſyſtem has the neceſſary effect of raiſing the value or price of land.

9*th* Cause—'*A duty upon the importation of grain from foreign countries.*' This certainly is one of the most obvious methods of raiſing the price of grain of home growth. Should it happen

that wheat might be imported into this country from the Baltic, at a cheaper rate than it could be afforded upon the spot, then, in order to prevent the value of land from falling, or, in other words, to keep it at a higher elevation, the simple contrivance is, to lay a duty of a certain amount upon its importation from abroad. If, for example, wheat can be raised in this country at 30s. per boll, and imported for sale at the same price, then the two will come into competition, and home agriculture be more or less discouraged. To secure, however, the home market, the Legislature have merely to impose upon foreign grain a duty that will raise it from 30s. to 40s.; and not a particle of that species of grain will be imported until the home price rises still higher. The farmers, now, without competitors in the home market, elevate the price of the commodity from the lesser to the greater number; and, by that means, the rent, and, of course, the value or price of land, is raised in a like proportion. By the late Corn act, the rate at which grain may be imported was raised; and, to that extent, the land growing it was also augmented in point of money value. There being no increase, however, in the quantity of grain raised, there is no addition of wealth, or gain to the country, but merely to the landholders.

10*th* Cause—'*The invention and application of the steam engine, and other mechanical improvements in manufactures, by which human and animal labour has been abridged.*' The use of the steam engine, and other sorts of machinery, of which it has been the parent, has had the effect of prodigiously abridging human labour in every species of manufacture. In other words, the same quantity of work can now be executed with fewer hands than in former times. As long as the labour of an individual is totally manual, or wholly the result of his own legs and arms, it is very plain, that his daily wages can be in the precise *ratio* only of the exertions made by these members. As they constitute the only operating cause, the effect produced by them, viz. the wages, can arise only from that source. The alone way, therefore, in which the effect, wages, can be increased, while the cause, manual labour, remains of the same capability, is by an actual augmentation of the former for the same quantity of work. This, however, is exceedingly limited; for, with the increase of wages, the price of the article is augmented, and its consumption, of course, materially diminished. Machinery, on the other hand, possesses two very singular qualities; for it has the effect, at the selfsame moment, of lowering the price of the manufactured article, and of raising the wages of the workmen. These consequences are apparently, and at first sight, contradictory; but, when considered more nearly, they are necessarily the result of each

each other. It is very plain, that if a workman, with the assistance of machinery, can perform twenty times more work than with his own hands, the goods so manufactured will be twenty times cheaper in the one case than in the other,—under deduction, however, of the expense attending this aid. In the manufacture of muslins, for example, there enters both manual and mechanical labour; and, had it not been for the invention of the steam engine, and various other machines, that trade, now of so enormous a magnitude, would have been, in comparison, of very trifling consequence; nor would the article itself been nearly so cheap as it is at present. It is evident, therefore, that the goods, when delivered over to the master-manufacturer by the weaver, contains his own manual labour, and the mechanical labour also of all the machinery employed in bringing it to a marketable state. One would suppose, however, that still the weaver or spinner would be paid for his manual labour just in the same way as before the introduction of machinery; because all that he gives is the labour of his hands. But this is by no means the fact; for, along with a remuneration for his manual labour, he gets part of the profit earned by the machine of which he has had the management. It is a small proportion, to be sure, in comparison of the gain of the master-manufacturer, but still of sufficient importance to increase the comforts of his condition in life. While a man works merely with his hands, he gets the price of their labour only, because nothing else is employed; but when conducting a machine, which requires some little intellectual exertion, he receives a further reward for this higher species of labour. He is no longer a mere labourer; he is now a being of a superior kind, the master of a machine; and, on account of the intimate union which subsists between the two, he derives some part of its profits. It is very evident, therefore, that machinery has the effect of raising the wages of the lower class of the community to a higher pitch than they would otherwise have risen by means of manual labour alone. If, again, the condition of all ranks of people, in respect to income, be better, they can afford to pay a higher price for the wheat and other articles that they may have occasion to consume, besides using a great deal more of them than they have been accustomed to do. If a man earns only sixpence a day, he can afford to pay just a certain sum, and no more, for the articles of consumption, and the farmer need not ask a higher price; but, if he happens to earn a shilling, then he will be able to pay just double the price. As machinery, therefore, has had the effect of raising the wages of the manufacturer, it has had the effect also of raising the price of farm-produce, and, of course, the value of land.

It has been remarked, that a duty upon the grain imported from abroad, raises the price of the article in the home market. Now, if the use of machinery raises, or rather adds to the wages of the manufacturing classes, a source is opened for adding every now and then something to the duty already upon the grain. In proportion as the machinery advances in improvement, the wages of the workmen will also increase; and, of course, a further tax upon grain imported will be the less felt, from their greater ability to pay. The landed interest, therefore, may be assured, that with the further improvement of machinery wages will rise; with that the ability of consumers to pay a higher price for commodities; and the duty upon the importation of foreign corn be augmented. The value of land, it would seem, will continue to rise *ad infinitum*, at least as long as these causes continue to operate.

11*th* Cause—'*Taxes increase the nominal, or money price of land.*' Taxation, from sad experience, we know very well, increases the nominal, or money price, of all articles of consumption. If rum, before the imposition of a tax of five shillings per gallon, cost only four, then, the same quantity, after that event takes place, will cost at least nine shillings. Upon the same principle, if land was worth nominally twenty pounds per acre at one period, it will, after the imposition of the land-tax, rise in value to the amount of its former price and the above tax. But further, after the imposition of this tax upon rum, and all the different articles that are consumed by the holders or occupiers of land, they will find, that if the value of that commodity stood still, it would enable them to purchase fewer of them than formerly. It becomes necessary, therefore, and uniformly happens, that the price of the produce of land rises more or less after the imposition of a new tax by the Legislature, and, of course, the value of the land; for, if it did not, the landed interest would soon become beggars. To be sure, this rise in the price of grain is not so great as it would otherwise have been, on account of the improved cultivation of the soil. It is contended by many people, that all taxes, of whatever description, fall ultimately upon the land; and if so, then the nominal value of that commodity will be more enhanced by these operations than I am arguing for at present. All that I contend for is, that, owing to the land-tax acting directly, and the taxes upon rum and other articles acting indirectly upon land, a rise in its nominal value is produced. The precise amount of this effect it will be difficult to determine, but there can be no doubt of its silent operation; and, of course, along with the progressive accumulation of taxes, an augmentation in the value of land will follow.

12*th*

12*th* Cause—'*A rise in the price of the produce of land.*' I am aware of entering upon a very difficult and abstruse subject, when I come to treat of this and the following cause; but I shall do my best. A full discussion I do not mean at present, for that would be superfluous to the point at issue, even if it were in my power to do justice to it.

As a rise in the price of the produce of land is often confounded with what is called a depreciation in the value of money, I shall, in treating of the first of these, speak only in so far as it is independent of the other. When the two are combined in nearly the same proportions, which often happens to be the case, I shall not touch upon the subject at all; because, in doing so, much confusion of ideas will necessarily arise upon a matter of very considerable abstruseness and difficulty even in its simplest form. It is impossible, altogether and completely to separate the two ideas, since they are so intimately blended and interwoven with each other. If there really and truly exists a depreciation in the value of money, it must, of course, enter into the price of the produce of land. There are, however, some articles into which it enters more, and others into which it enters less. To illustrate, therefore, this rise upon the produce of land, I shall speak of those articles only, the money price of which depends less upon the low value of that article than some other causes. In doing this, I shall confine myself to one commodity, for the sake of simplicity and precision; and the reasoning that I may have occasion to employ upon this particular one, may easily be applied to other articles of consumption.

Butter, and it is a considerable article of consumption, has of late years risen greatly in price, and, so far as its influence extends, has augmented the value of grass land in Scotland. This rise is not owing altogether to a supposed depreciation in the value of money, nor indeed in any very great degree; because wheat and several other articles, are not much dearer now than they were half a century ago. That it has risen in consequence of the fall of the other, there can be no doubt; because, as money, in the abstract, is supposed to have fallen in value, so must every commodity, of course, rise in price for which it is given in exchange. The only other possible cause for this rise in the price of butter, is to be found in the increased demand for it from all quarters, by reason of an increased wealth upon the part of the consumers. The demand being greater than the supply, the old level was destroyed; the former relation between the money price and the article, of course fell to the ground. With this rise in the price of butter, there is evidently a rise in the value of all land

land devoted to the production of milk, and to the feeding of dairy cows. But further, we know, that a direct rise upon the price of one article of food, has the effect of indirectly raising all the others, though not to a like extent. The increased price of butter, therefore, raises directly the value of grass land; and by communicating part of its rise to other kinds of land produce, raises that of grain, and of course all land under tillage.

13*th* Cause—'*A depreciation in the value of money.*' We hear a great deal of a depreciation in the value of money; but I have not yet met with such an explanation of its nature as appears satisfactory to me. In this dilemma, therefore, I must give my own understanding of the matter. The value of money, in respect to grain, depends upon the relative quantity of these two commodities. If there be, in one year, a million of bolls of wheat for sale, and the same number of pounds Sterling to purchase that quantity, then the boll will just be worth twenty shillings. If, again, the quantity of the grain in the market be the same in another year, and the money that is set apart for the purchase of it has been doubled by some means or other; then the boll will cost forty shillings, instead of its former price, twenty. In this case, the value of money will fall one half, being the difference between twenty, the price of the boll of wheat in the former, and forty shillings, its price in the latter year. This is what I understand to be the simple meaning of the depreciation of money value. In order perfectly to establish the fact, we ought to be acquainted with different particulars, which, I venture to assert, are imperfectly understood. In the *first* place, we ought to know the quantity of grain in the market at each period; 2*d*, the amount of the circulating medium at these periods. Upon finding that, at these two periods of time, the quantity of grain was the same in amount, and the number of pounds Sterling greater in the second than in the first, we may safely conclude, that there really and truly has been a fall in the value of money. Yet still money may increase in quantity; but, if grain augments also in a similar ratio, there is, upon the foregoing principle, no depreciation in its value; the relative quantities are still the same. However, we all know, that grain is now dearer than it was formerly; and the probability is, that part of this rise, though by no means the whole, is to be ascribed to a fall in the value of money. I do not pretend to deny the fall altogether; but sure I am, it is not so great as generally supposed to be. The taxes which are paid to Government by individuals, by falling upon the land, must necessarily have the effect of raising its value. The abridgment

of

of human and animal labour that has taken place in manufactures and agriculture, by raising the wages of the people, enables them to pay a higher price for the articles of consumption, and by that means tends to elevate the price of land, and of course that of grain. These, and many other causes which might be mentioned, must be permitted to have some influence upon an effect which ought not to be attributed wholly to a depreciation in the value of money. To the extent, however, of this fall, the nominal price of land will no doubt rise.

There are still several other causes that might be mentioned, as tending to produce the rise that we have seen in the value of land; but they may with propriety be included, without any confusion of ideas, in one or other of the foregoing. I intended to have closed this inquiry with some general remarks; but I find I have trespassed so much already upon your patience, that I must defer the execution of my original intention to a more favourable opportunity. I am, yours, &c.

A CONSTANT READER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Property-Tax, &c.

SIR,

I HAVE observed, in some of the late newspapers, an account of the meetings and resolutions of both heritors and farmers, in different places of Scotland, relative to the *data* fixed upon by the Legislature for ascertaining the income of tenants, with a view of levying the Property-tax; and, in the March number of the Farmer's Magazine, we have, at full length, the opinions and resolutions of the Kincardineshire farmers upon that subject, who, like several of your correspondents, complain bitterly of the tax, being, as they term it, 'erroneous and unequal, partial and oppressive, also unjust, imposing extreme hardships on the occupiers of land,' &c. &c. Now, as it appears clearly to me, that, of all the different classes of the community, the farmers are those who have least cause of complaint on that score, I shall, without further preamble, proceed to lay before you the grounds upon which I have founded that opinion. It may be admitted, that farmers, as affected by the Property-tax, are divided into two classes,—those who had entered upon, or agreed for their farms, prior to the Property-tax act, and those who have taken their farms since that period, meaning since the passing of that law in 1803, imposing a per centage upon profits from stock or trade. Now, when we consider that, from the great competition which

which almost always appears amongst farmers whenever a farm comes to the market, and from which circumstance we may infer, that land always lets at its full value, affording, at best, for some years at the commencement of the lease, barely sufficient to pay the rent and necessary expense, and very often that the same is only expected after a lapse of several years, with a constant outlay of money, during that period, in improving the farm; yet, nevertheless, as in this country every man has a right to make his own bargain, we may naturally conclude that land lets only at its fair value, the value of every article being exactly what it will bring in a public market.

I am perfectly aware, that, at first sight, it may appear extremely hard for a farmer to be told, who has taken his land under the above circumstances, that, whatever rent he may have agreed to pay his landlord, the one half of that sum is his real income, and upon which he must pay the Property-tax accordingly; and if matters, in every respect, had been the same as when he entered upon, or agreed for his lease, so it would; but if, before perhaps one farmer in fifty had paid a shilling of Property-tax, the Legislature of the country thought proper to pass an act of Parliament, which had for its avowed purpose the raising the price of grain, and if such act of Parliament was competent for the object in view, that surely made a most material alteration in the situation of the farmer. And as for yourself, Mr Conductor, I think I recollect, in your very judicious observations upon the Corn laws, you gave it as your opinion, that all that seemed necessary, on the part of Government, was, simply, proper regulations, prohibiting the importation of foreign grain at or under certain rates, so that the British farmer might not be undersold in his own market; and I think you have also stated, more than once, that, in an average of years, this country or island is not able to grow grain sufficient for the support of its present population. Now, if this latter observation be correct, which, by the by, seems to be generally admitted as a fact, and if the alteration made in 1804, in our Corn laws, went the length of adding one fourth, or thereabouts, to the prices at which foreign corn could be imported into this country, would not this have a direct tendency to add one fourth more value to all the disposeable part of farm produce? And that such really has been the case, appears pretty evident from the astonishing rise that has taken place upon the value of land within the last three years. From what has been said, I think it will appear perfectly clear, that farmers who have held their leases previous to 1803, have not the most distant cause of complaint; for, if they did not foresee the Property-tax bill, they had as little right

to

to expect the important alteration that has taken place in the Corn laws.

As for those farmers who have taken land since 1803, I cannot for my life see upon what ground they rest their objections to the present mode of raising the Property-tax; for surely it must appear evident to every one, whose eyes are not completely blinded by the most selfish partiality, that (as has been repeatedly noticed in your Magazine) the Property-tax, as levied upon farmers, must *ultimately* fall as a land-tax; which implies that farmers, when offering for land, will invariably keep in view, that the Property-tax exigible from them will be in exact proportion to the sum offered; and, as they know to a certainty that the tax will be rigorously exacted, without favour or deduction, will shape their offers accordingly: of course, such offers will, with every prudent man, be just so much less to the landlord as the amount of the tax to be paid to Government. Now, that men, under such circumstances, should come forward and exclaim against the mode of raising the tax, as unfair, oppressive, &c. &c. appears to me most extraordinary. That many individuals find it a hard matter to meet both their landlord and tax-gatherer, I make no doubt. But, who have these gentlemen to blame? Was it not their own deed that brought them into their present situation? for, certainly, no one will impute to Government the bringing of men from the four winds of heaven—from the mash-tub and the sugar-hogshead—from driving the needle, the shuttle, and the quill, and setting them down in the pure air of the country as Scotch farmers. And certain I am, that had the competition for farms not been greatly increased by people of the above and similar descriptions, there would not have been at this day so much just cause of complaint among such a respectable class of men as the Scotch farmers, of the high rent of land.

That the Property-tax has not yet had the dismal effects upon agriculture supposed by some men, is what I think pretty evident, from the most extraordinary rise that has taken place upon the value of land within the last four years, as before mentioned; and surely a rapidly increasing rent-roll must, even to an Ayrshire or Caithness county squire, indicate a flourishing agriculture. Why, then, all that seeming anxiety for the good of the tenantry, so pompously displayed in the columns of our newspapers? Let gentlemen only perform what a clear judgment and liberal sentiments would readily point out to them, as the best means of ameliorating the condition of their tenantry, and increasing their own revenues: let them grant leases of

sufficient duration, and upon such liberal terms, that, while they secure, in the most ample manner, the interest of the landlord, they may also be sufficient to enable the tenant to reap an ample recompense for what improvements and ameliorations he may have made upon the farm; and, in case of death or other accident, which prevents him from personally enjoying the fruit of his industry, instead of fettering the tenant, by absurd clauses, from disposing of his right in the lease in what manner he may judge most advantageous for himself or family, allow him, like a merchant who disposes of his goods in a warehouse, (to whom, by the by, these patriotic souls, our country gentlemen, would have no objections to have him assimilated in the case of the Property-tax); allow the tenant, I say, like the merchant, to dispose of his property in the way he thinks most advantageous for his own interest; for, surely, when a farmer's stock is fairly invested in a farm, it is the same to him as that of a merchant when brought within the walls of a warehouse. How ridiculous would it appear, was the proprietor of that warehouse to pretend to dictate to him in what manner he should dispose of his goods so concentrated? The days of feudalism are past; the relation of landlord and tenant are very different since these days; but still the clause in the lease, which had its origin at that early period, secluding assignees and subtenants, is retained with all the obduracy of feudal ignorance. Let the tenant be accommodated with house and offices suitable to the farm; let him have the farm enclosed and drained, as circumstances require, with every permanent improvement that may seem necessary;—then, by only applying his capital exclusively to the cultivation and manuring of the farm, will he be enabled to send more grain to market; of course to pay a higher rent, live better himself, and in the most effectual manner further the wealth and prosperity of the country at large.

I cannot help noticing, in this place, a practice in general use among landlords of this country, when they have a farm to let, of advertising to take in offers for the same between and a certain period,—offers to be concealed if desired,—a practice, in my opinion, often extremely prejudicial to the farmer. Indeed, the practice carries upon the face of it the most evident marks of having sprung from a mind completely embued with the most selfish greediness and low cunning, natural only to the very refuse of mankind. I am far from thinking that every gentleman who advertises his land to be let by the above method, would stoop to the paltry measure adopted by some men, for the purpose of screwing a few pounds from the pockets of an anxious

. . . . candidate;

candidate; but those who are at all acquainted with the present mode of letting land are sensible, (and many of your readers, to their cost, know the truth of what I mention), that when once a written offer is given in,—what by some landlords themselves, or their factors, their grieves, their cooks and their valets, the most unwarrantable use is often made of the same,—what with showing the offer, with the name concealed, to one person,—what by some of the vermin employed about the great man's house pretending to another person, that, by accident, he saw an offer of so much from such a one, or overheard the coversation at table, standing behind his master's chair, that such a sum was offered;—nay, what is worse than all, by managing matters in a way similar to what is stated above, instances are not wanting, where an individual has been brought to make a considerable advance upon own his offer, at the time he was the highest offerer himself. It would certainly show much more candour in landed gentlemen, were they (throwing aside the opportunity of taking advantage of such mean subterfuges) to come frankly forward, and say to the man they could wish to accept of as a tenant,—such a sum is the value I put upon my farm, if you choose to take it; if not, I expose it to public roup;—a method of letting land, by the by, recent observation may point out to the landlords, as well calculated to bring the full value of the premises exposed.

Little accustomed to lay my sentiments before the public, I am perfectly aware of the inaccuracy of my writing; but if the sentiments expressed are thought worthy of a place, they are perfectly at your service; and as some of the topics upon which this paper touches, engross at present a share of the public attention, an early insertion, on that account, would be desirable. I am, Sir, yours, &c.

SCRUTATOR.

REMARKS BY THE CONDUCTOR.

OUR sentiments concerning the Property-tax, as it affects the farming interest of Scotland, being already well known, it is unnecessary to repeat them at this time. Before remarking upon the foregoing paper, we frankly admit, that the author has presented an ingenious defence of that unpopular tax, (unpopular, because it falls heavier upon the tenantry than upon other classes); and we acknowledge, that his arguments would be weighty, were they grounded upon a solid foundation. A few observations will explain our meaning.

In the *first* place, as the original Property-tax act was passed

five years ago, it is pretty plain, that three fourths of the farms entered to before 1803 have already been valued; consequently, that the great body of the tenantry of Scotland are rated at rackrent, when the Property-tax upon their farms comes to be ascertained. In considering the subject, the points at issue are these,—Whether the gains or profits of farming can be reckoned equal to one half of rackrent; and whether the tax upon farms, entered to since 1803, is paid by the tenant or landlord.

With regard to the *first* point, the wildest calculator in rural or political economy, has not hitherto ventured to estimate the profits of farming at more than one third of rackrent; and, perhaps, were these profits restricted to one fourth of that rent, a great error would not be committed. But, though this point is of much importance to those who entered to possession before 1803, whether valued or not, it appears to our author as of no consequence to tenants who have taken land since that period; because, in framing their offers, the amount of the tax would be held in view. In short, when attempting to defend one part of the act, our author accuses it of enacting the grossest injustice in another. According to his principles, 15 *per cent.* is levied from proprietors of land, when no more than 10 *per cent.* can possibly be levied from the monied, manufacturing, and commercial classes!

But our author comforts the holders of old leases by remarking, that if they did not know of the Property-tax when they entered to possession, so neither did they know of the act which afterwards was passed for raising the rates at which corn could be imported from foreign countries duty free, and that the hardships of the one measure are amply compensated by the benefits of the other. Now, it strikes us, that the advance of importation rates was occasioned by the increased value of labour and permanent public burdens, since the former act for regulating importation was passed; at least these were the arguments used in Parliament by the supporters of the bill. We are perfectly satisfied, that Britain, in ordinary seasons, does not produce corn in a sufficient quantity to supply the consumption of its inhabitants; therefore entertain not the slightest doubt concerning the advantages furnished to agriculturists by the act passed in 1804, for raising importation prices. But raising these rates did not mend the condition of agriculturists more than existing circumstances required. In fact, when the money value of every article of outlay upon farms is considered, it will be found, that the importation prices fixed by that act are much lower than those settled at the Revolution, when the corn laws were first reduced into a regular system.

But, were we to grant every thing which our author has stated on

on this point, how will he support the propriety of the rules by which the property-tax is assessed, when the act is applied to a class of tenants who perhaps possess one half of the kingdom? We here allude to the tenants of grass land, who most certainly were not benefited by the advance made upon the rate of importation prices. It is needless to push this argument further, for it is unanswerable. Neither need we urge, that none of our author's arguments apply to a single tenant whose farm has been valued by the commissioners appointed under the Property-act. Such valuations were made upon rackrent principles, or according to the supposed worth of land at the time; therefore a tenant so circumstanced was, so far as related to the tax, exactly in the same situation as if he had taken a new lease from his landlord. If the author reflects upon these things, he will find, even allowing his leading argument to be correct, (which, we contend, it is not), that the act passed for raising the rates at which corn could be imported from foreign countries duty free, bears little, if at all, upon the subject he was investigating. If there is any connexion, it can only extend to a few corn farms, taken before 1803, which have not been valued; but the number of these is too trifling to influence the merits of the general question.

With regard to the *second* point, viz. Whether the Property-tax upon farms entered to since 1803 is paid by the tenant or landlord; it may be remarked, that the tax being a war one, and not expected to last for many years, competitors have seldom viewed it as a burden which ought to influence them when valuing land for a lease of nineteen or twenty-one years endurance. Should the tax become permanent, or even should it be continued for any considerable length of time, there can be no doubt that, like the old land-tax, it must at last fall upon proprietors. This doctrine we have repeatedly inculcated, and it is consistent with the common sense of mankind. Hitherto the tax has operated upon the tenantry, because it was considered as a temporary burden. In fact, we do not believe that a single offer for land has been limited or lessened because the tax was in existence. The tax is a fair one if confined to gains and profits; but it deserves a different character when levied according to a false, unequal, and impolitical criterion. The criterion is false, because the profits of a farm set at rackrent cannot possibly amount to one half of that rent. It is unequal, because it assumes, as a principle, that every farm is set upon the same terms; and it is impolitical, because capital, which ought to be employed in the improvement of the ground, is thereby extracted from the tenant at his entry, when he seldom has either gains or profits. Whatever force is attached to these objections,

we must repeat, that if the tax is suffered to remain for a few years longer, it will necessarily be transferred from the shoulders of the tenants to those of their landlords.

But our author forgets that the tax has been two times increased since 1803; and he does not attend that, though every one of his arguments may be correct when applied to the original assessment, none of them are applicable, or can be conclusive, when the present scale of assessment is judged upon. In 1803, the tax was fixed at 5 *per cent.* upon what was called income, or $2\frac{1}{2}$ *per cent.* upon rental. Now, let us suppose that a prudent tenant, who offered for land in 1803, actually deducted $2\frac{1}{2}$ *per cent.* from the estimated value when he made his offer, and that the landlord was pleased to accept of his offer with that deduction, what are we to say with respect to the additional $1\frac{1}{4}$ *per cent.* imposed in 1805, and the still greater addition of 1806, whereby the original tax was doubled? Surely it must be allowed, that tenants who entered into lease in 1803 and 1804, pay 5 *per cent.* upon supposed gains and profits, or $2\frac{1}{2}$ *per cent.* upon rental, above what they had then any cause to expect; and that those who entered in 1805 are also increased $3\frac{3}{4}$ *per cent.* in the one case, and $1\frac{1}{4}$ *per cent.* in the other. If our author can make out the contrary, we will cheerfully give up the cause; but, unless he can do this in a satisfactory manner, we must insist that he has totally failed to prove, '*that, of all the different classes of the community, the farmers are those who have the least cause of complaint on the score of the property-tax.*'

In the *second* place, as 15 *per cent.* is undoubtedly assessed upon land, the next question that occurs is, Who pays that assessment? The act says, that the proprietors are to pay 10 *per cent.*, and the tenants the remainder. Our author, however, maintains, that the farmer who has taken land since 1803, is altogether free, and, of course, that the proprietor pays 5 *per cent.* more than his just and legal share. If this be the case, he need not be surprised that the heritors of several counties are somewhat alarmed; because it is plain, instead of giving one tenth of their incomes to government, they are in reality giving something more than one seventh, when the monied interest cannot possibly be compelled to pay above one tenth, and the manufacturing and commercial interest hardly any more than what they please. We apprehend that our author has got into a labyrinth out of which he is not to be easily extricated. He must either allow that farmers pay 5 *per cent.* upon rents, as their share of property-tax, or admit that proprietors pay 15 *per cent.*, while no other class of the community can possibly be obliged, under the present act, to pay more than 10 *per cent.* He may choose the alternative; but whether

ther he allows or admits, the errors of the Property-act must be equally evident to any person who considers the subject in the slightest manner.

In the *third* place, let the Property-tax, as it affects land, be considered in any view that its supporters please, it is demonstrable that injustice is committed some way or other. If the tax is wholly paid by the landlord, then there can be no question concerning the injustice done him. The ground we have always occupied, when discussing the Property-act, is, that tenants suffered by it in the first instance, but that ultimately proprietors would have to bear the burden. Had the tenant's tax, however, been calculated upon gains and profits, this could not have happened. Had the proprietor been rated according to the rents which he received, after deducting certain public burdens; and had the tenant been considered as a manufacturer upon the proprietor's estate, with whom no other connexion subsisted than what arose from paying a certain sum in lieu of ground rent by that manufacturer, then every difficulty would have been obviated. The tax upon each would have been levied according to their respective incomes; upon the proprietor, according to the amount of the rents paid him, and upon the tenant, *i. e.* manufacturer, according to the extent of his gains and profits. In this way, no reasonable cause of complaint would have remained, because none could be assessed, unless income was actually received and in their possession.

We cordially agree with the other remarks made by our correspondent. Indeed they are quite in unison with the sentiments we had lately occasion to offer, when noticing the communication of 'A Constant Reader,' though our correspondent could not at that time have had an opportunity of examining them. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Subſtance called Noſtick.

SIR, *D—g—r, Dumfries-ſhire, 30th June* 1808.

I beg leave to preſent to the curious, through your uſeful publication, the following communication relative to noſtick.

Of this jelly-like ſubſtance, found in the fields after rain, much has been ſaid and written both in ancient and modern times. It has paſſed under various names, as ſtar-ſhot, witches' butter, floſ-æris, &c. The alchemiſts alleged it afforded a menſtruum for gold, and contained other wonderful qualities.

Parcellus has ranked it with manna, and thought it dropped from heaven. In later times, it has been ſuppoſed a vegetable

production. Dr Merret calls it *Lichen humiditate intumeſcens*; Dr Haller, *Lichen gelatinoſus, plicatus undulatus*; and ſome botaniſts, as Dr Moriſon and Micheli, call it a *Fungus*, and deſcribe the ſeeds of it. Even the great Linnæus conſiders it as a vegetable, and calls it, in one edition, *Byſſus gelatenoſa fugax terreſtris*; in another, *Tremilla plicata undulata*.

Lately, it has been conſidered as the ſubſtance of a frog, reduced to this ſtate by paſſing through the body of ſome bird, as a heron; and the proofs were, that ſome obſervers had noticed the feet, legs, &c. of a frog, along with the jelly, undiſſolved, ſometimes blanched.

Accident, with ſlender obſervation, will ſometimes unfold, where keen penetration has failed.

On the 4th June laſt, after conſiderable rains, I found this ſubſtance full of black ſpots; on turning it over, I noticed the full ſkeleton of a frog, that is, the ſkin and bones; the ſkin of the natural colour, the fleſh moſtly diſſolved or corrupted from the bones, and the internal parts gone. *

People in the country are generally acquainted with the ſpawn of frogs, as it appears in little pools of ſtanding water, and alſo with its appearance in a dried ſtate, after extreme dry weather has evaporated all the water in the pool.

Upon comparing theſe, I am ſatisfied that this noſtick is neither more nor leſs than this frog ſpawn in a premature ſtate, and theſe black ſpots the ſeed of the tadpoles.

This may be produced by a bird ſwallowing a frog, in certain circumſtances, whoſe ſtomach is in general equal to the digeſtion of the whole carcaſe; but perhaps the ſpawn is indigeſtible, and of courſe voided. This ſpawn, when dropped on dry ground, paſſes unnoticed; but if much rain ſucceeds, that ſwells it greatly, leaving it ſimilar to what it would have been in the pool in a more ripened ſtate, according to the ordinary courſe of nature.

A mode of proving all this might be eaſily ſuggeſted; but the experiments would bear affinity to thoſe of the elegant, but cruel Italian R–d–.

By inſerting this with your firſt convenience, you will much oblige, Sir, your obedient ſervant, J. G.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Tros, Tyriuſque mihi nullo diſcrimine habetur.

Sir,

When a learned Judge deigns to ſtoop from the ſublimity of the Bench to the bathos of the barn, plain men expect, at leaſt, ſound,

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* I incline to think this frog met its death by accident; it was found on a private road, where carts had been paſſing both early in mornings and late at night. J. G.

sound, rational information, and a fair statement of facts. In Vol. V. Part I. page 97, of Communications to the Board of Agriculture, a learned Baron of the Exchequer says, '*A six horse power thrashing-mill will thrash easily, from six to eight quarters of wheat in the hour; but the horses must walk four miles in the hour, to give sufficient velocity and impetus to do the work well.*' It is denied that this quantity of wheat, viz. seven quarters, is thrashed in the course of real business, in the time specified; and an appeal is here made to *practical men* to say, whether the average of a day's, or half a day's work, is not nearer 3½ than 7 quarters in the hour, with six horses. Does the Honourable Baron really think that horses can '*easily*' walk four miles in the hour in a thrashing machine, *admitting one were calculated for that rate of pace?* It is humbly apprehended they cannot walk at that rate, without great distress, for even one hour, far less for four hours, the usual duration of a yoking or journey. But thrashing machines are, or should be calculated so, that the horse's rate does not exceed two miles in the hour. If, therefore, they are driven at the rate of four, it is evident to *plain men*, whatever it may be to a *Baron of the Exchequer*, that neither horses, nor machinery, can endure such treatment. The former must soon sink under the fatigue, and the latter fly, or be torn to pieces, by the centrifugal force, generated by a velocity of the switchers of six thousand feet *per* minute, 720 feet more than a mile *per* minute. If the learned Baron understands the business of the Exchequer Court no better than that of his corn-barn, and has no more mercy on delinquents against the revenue than on his poor horses, it is high time he was invalided. As Mr Meikle lives not a hundred miles from his country seat, he would then have time to attend his school, and learn to descant on thrashing machines with more truth and consistency. For, let him recollect, though there may be quibbling in law, there is none in science.

'*Te,*' *Baro,*

'*Discipulorum inter jubeo plorare Cathedras.*'

PHILALETHES.

FOR THE FARMER'S MAGAZINE.

[The late Session of Parliament is, by many people, considered to have been one of the busiest which has occurred for several years; and, in like manner, the Session of the Board of Agriculture, which concluded on the 7th of June last, must be regarded as an active and interesting one. The different measures which occupied the attention of the Honourable Board, are so distinctly specified in the following Address, that we think it unnecessary to say more, than merely calling the attention of our readers to what is stated by the worthy and patriotic President.]

Address

Address to the Board of Agriculture, by SIR JOHN SINCLAIR, *Baronet, the President, at the Conclusion of the Session, on the 7th of June*, 1808.

GENTLEMEN,

IN conformity to the usual practice, at the termination of the meetings of the Board for the year, I now beg leave to submit to your consideration, a short detail, of the various particulars which have principally occupied our attention, during the session about to terminate, and which it is impossible to reflect on for a moment, without a deep conviction of the many public advantages which must necessarily be derived from this Institution.

I. *Machinery.*—There is no object to which the Board can direct its attention, of more importance, than to improve the machinery employed in agriculture. In many cases, by such improvements, the same quantity of work can be better executed, or can be performed by fewer horses, and consequently at a cheaper rate. By such means, therefore, the increasing price of human labour, and, as a necessary consequence, a higher price for human food, can best be counteracted. The improvements in machines transmitted to the Board, within these few months past, are numerous and important. Among these are to be enumerated, 1. Mr Andrews's *Expanding Axletree*, by which the breadth of various descriptions of carriages employed in husbandry, may be altered at pleasure; also a waggon invented by the same mechanic, so well constructed, that it can turn in almost any situation, and can be drawn in any direction; consequently, is peculiarly well calculated for narrow lanes, for drawing timber out of forests, and would probably be of singular utility in another department, namely, in conveying artillery. 2. *An Auger*, said to have been invented in North America, on an ingenious principle, which clears itself, and which will probably be found applicable to Mr Elkington's mode of draining, and other agricultural purposes. 3. *Garnet's Patent System*, made at Bristol, by which the friction in churns, and other agricultural instruments, is greatly reduced. * 4. *A Gorse Mill*, used on the late Lord Penrhyn's estate in Wales, by which furze is bruised in such a manner, that horses and cows can eat it with pleasure; and with such a machine, where furze can be had from waste grounds, it must be a valuable resource for cattle, more especially in times of scarcity. 5. *An Improved Thrashing-Mill*, invented by Mr Moodie, an ingenious mechanic near Edinburgh, at a price which will not exceed 60*l.*, which is uncommonly strong, will require but little repair, takes up but little space, and by means of which, two

* A churn thus improved, may be seen at the Board of Agriculture.

two horses will thrash a considerable quantity of any species of grain, without working harder than if they were at plough. * And, 6. *A Swing-Plough*, made on the principles recommended by Mr Jefferson of America, by the late Mr Macdougall, whose merits, in the department of Agricultural Mechanism, are so universally acknowledged, and which bids fair to bring that valuable instrument of husbandry to all the perfection of which it is capable. †

II. *Domestic Productions.*—The political situation of Europe at this time, the convulsed state of its commercial relations, and the general combination of the Continent against these kingdoms, must necessarily be productive of circumstances, in some respect unfavourable to the agriculture, and in other respects to the commerce, of the country. Among the agricultural productions which the war has tended to depreciate, that of long wool is one of the most important, and the fall in its price has been considerable. An ingenious farmer (Mr Whitworth, near Doncaster) was thence led to try, how far such wool might not be made applicable to the making of sacking, of ropes, and a variety of other articles, and the plan is likely to be successful; in particular, there is reason to believe, that wool will be found peculiarly well adapted to be employed in making cots or hammocks for our seamen, not being so liable to take fire. Tents made of wool, also, must be better calculated for resisting wet, than when canvas is used for that purpose. By these means, a double object may be obtained; that of increasing the value of our own productions, and of diminishing the consumption of articles imported from a country now unfortunately at variance with us.

Here it may be proper to observe, that in consequence of an application from the Commissioners of Naval Revision, the attention of the Board has been particularly directed to the cultivation of hemp. Every information upon that subject, which the records of the Board could furnish, has been given to that useful institution; and with a view that the growth of hemp might not interfere with the production of human food at home, and that its cultivation might be promoted in our colonies abroad, premiums

* This thrashing-mill is to be seen at Mr Collinge's manufactory, Bridge Row, Lambeth.

† Under this general head may be mentioned, the whalebone sieves, and nets for confining sheep, invented by Mr Bowman, which are evidently much more durable, and in other respects greatly preferable to any article of the same sort now in use. It is certainly desirable, also, by increasing the consumption of whalebone, to promote our fisheries, which, like other branches of domestic industry, cannot be too much encouraged.

miums have been offered to the perſon who ſhall cultivate the greateſt number of acres (not leſs than four) with hemp, *on drained peat bog*, and to thoſe who ſhall report to the Board the beſt means of promoting the cultivation of that article in our American colonies.

III. *Potatoes.*—This moſt valuable article cannot be too much recommended as an excellent ſource of human ſuſtenance. There were two obſtacles to its extenſive cultivation; 1. the diſeaſe called the curl, to which it is frequently liable; and, 2. the ſuppoſed difficulty of preſerving the root beyond one ſeaſon. Under the auſpices of the Board of Agriculture, both theſe objections to the extenſive culture of potatoes are likely to be removed. In regard to the curl, it would appear, from the experiments of Mr Crozer of Alnwick in Northumberland, that it can be effectually prevented by ſowing the potatoes intended for ſeed *later*, and taking them up *earlier*, than when intended for food. Several buſhels of potatoes, treated in this manner, have been purchaſed by the Board, and diſtributed in the neighbourhood of London, ſo as to give the experiment a fair trial. In regard to preſerving potatoes beyond one ſeaſon, it is aſcertained by the experiments of Mr Boys of Belſhanger in Kent, that by cutting them in thin ſlices, and drying them in a hop, or other kiln, * they may be kept for years, even at ſea, either in thoſe ſlices or ground into meal. By theſe means no part of the potatoe is loſt, the ſolid matter is all retained, the moiſture only being evaporated, and the meal may be conſumed in various modes as human ſuſtenance. It may be proper alſo to obſerve, that by cutting the bloſſoms of the potatoes, the roots are greatly improved, and the quantity of the produce conſiderably augmented. †

IV. *Foreign Productions.*—The preſent circumſtances of this country, and of the reſt of the world, render it extremely difficult to import any articles of foreign growth to be cultivated here. The Board, however, has not been inattentive to ſo great a ſource of improvement. Underſtanding that a ſpecies of barley had been brought by an ingenious traveller from Greece, which was extremely productive, and peculiarly calculated for feeding horſes, (by

* In hot climates they might be dried in the ſun. Potatoes thus dried, may anſwer for feeding ſtock, inſtead of oats or beans.

† This uſeful practice, of cutting off the bloſſoms of the potatoe, has only been recently diſcovered in the weſt of Scotland. It can be done by boys and girls, at no great expenſe. The nouriſhment that would otherwiſe go to the apple, is thus tranſferred to the root. It is to be hoped that many will try the experiment, in the courſe of this ſeaſon, and will report the reſult to the Board.

(by which, if found to anſwer, the importation of many thouſand quarters of oats would be rendered unneceſſary), means have been taken to try that article, even in the remote parts of the kingdom, as the grain ſeems to reſemble the bear or big now produced there. Application has alſo been made to Colonel Williamſon, whoſe long reſidence in America has given him a thorough knowledge of the productions of that part of the world, to exert his influence to procure ſeveral articles likely to be of uſe here, in particular the ſeeds of the pitch-pine and of the ſwamp-pine, which he has promiſed to procure, and which will probably be found valuable acquiſitions.

V. *Roads.*—The inquiries which have been carried on in Parliament, on the recommendation of the Board of Agriculture, regarding roads, wheel-carriages, and all the variety of particulars therewith connected, are likely to prove in the higheſt degree advantageous to the country. A committee for proſecuting thoſe important inquiries was appointed in the courſe of the preſent ſeſſion, by whom two reports have been already preſented, which are now in the preſs, and a third is preparing. The effect of theſe inquiries muſt be of infinite conſequence, if zealouſly acted upon; and if any thing effectual is done, it muſt, in a great meaſure, be attributed to the exertions of the Board of Agriculture. If carriages were properly conſtructed, fewer horſes would be neceſſary to convey the ſame quantity of goods; and if the roads were formed on better principles, the carriages would laſt longer, the horſes would be leſs injured, the roads themſelves would require leſs repair, and, from the various expenſes which would thus be ſaved, there is every reaſon to believe that the nation would be enriched, or rather its annual expenditure would be diminiſhed, on the ſmalleſt computation, to the amount of from five to ſix millions *per annum.* Such are the advantages reſulting from an attention to objects connected with internal improvement. It is by ſuch meaſures alone that a nation can become permanently great, and truly happy. By them its ſtrength, and the felicity of its people, may be hourly increaſed; whilſt foreign conqueſts are, too often, the fatal ſources of boundleſs expenſe, and of domeſtic debility.

VI. *The Colonies.*—The Board of Agriculture has always been moſt anxious to promote the proſperity of the colonies, and other diſtant appendages of the empire, wherever it was conſiſtent with the paramount intereſts of the mother country. With that view, the ſeeds of Lucern and Guinea-graſs were ſent to the Eaſt Indies, where they have been productive of the moſt important conſequences. The culture of potatoes, alſo, was firſt extended in the Eaſt, under the auſpices of this Board. To promote the advantage

tage of the Weſt India colonies, ſeveral ſeeds were procured in the Eaſt, and ſent to the Weſt Indies, where they are likely to produce much benefit. There being every reaſon alſo to hope that ſugar might be advantageouſly employed in feeding live ſtock, premiums have been offered by the Board for aſcertaining the value and effect of ſugar applied for that purpoſe, and for diſcovering any admixture that will prevent ſugar, intended to be applied in feeding ſtock, from being fraudulently employed for common purpoſes.

VII. *Cattle.*—It is of infinite importance to aſcertain the feeding qualities of the different breeds of cattle, reſpecting which no accurate comparative experiments have hitherto been made. The expenſe would be ſo conſiderable, that it could not be undertaken by the limited funds which the Board are poſſeſſed of; but the object was ſo material, that the Board reſolved to offer a premium of 100 guineas to promote ſo important an experiment; and various leſſer ſums have been voted for the ſame object, by ſeveral public ſpirited agricultural ſocieties, who are anxious to promote any uſeful object which the Board has reſolved to patronize. Fortunately, alſo, a very reſpectable member of this Board (Mr Curwen, member for Carliſle) has declared his intentions of becoming a candidate for the premium in queſtion. Of his impartiality, judgment, and zeal in the cauſe, there can be but one opinion.

VIII. *Miſcellaneous Articles.*—It is difficult to enumerate the variety of other objects, to which the attention of the Board has been directed, in the course of the preſent ſeſſion. Experiments are trying, from plants transmitted by Lord Redesdale, with the Fiorin grass of Ireland, ſo ſtrongly recommended in a valuable eſſay, communicated by Dr Richardſon. An intelligent practical paper on the uſe of gypſum, as a manure, has been inſerted in the volume of communications, with a view of laying a foundation for aſcertaining the advantage of uſing it in this country, and the ſoils and ſituations to which it is applicable. In the ſame volume will be found, the plan of a houſe, calculated for the reſidence of a country gentleman of moderate fortune, in which economy and convenience are equally conſulted. Meaſures have been taken, to recommend a mode of recovering corn damaged by bilge water, which cannot be effectually cured by any practice formerly known, and by means of which, it is ſuppoſed that conſiderable quantities of grain may be rendered fit for uſe, which otherwiſe muſt have been thrown away. Various premiums have been given for irrigation, embankments, and other uſeful improvements, in different parts of the kingdom. An important fact has alſo been aſcertained, regarding the feeding of horſes with tares, and which is applicable to green food in general. It is well

well known, that where the ground is tired of clover, * tares are the best substitute: indeed, in the opinion of Mr Arthur Young, they are as useful as clover for feeding stock, and may be advantageously succeeded by a crop of wheat, if the ground is merely scarified after the tares, and not ploughed, which would make it too loose for that crop. It has been objected to tares, that they would not answer if horses were very hard worked, or employed in posting. Mr Wood, of Ingatestone in Essex, however, has, for many years, soiled all his post horses upon tares, with no other precaution than that of keeping them from water. This furnishes a most valuable hint to owners of post horses, when hay is scarce or dear; and it points out the advantage of giving little water with green food of any description. †

IX. *Lectures.*—In the course of this session, several lectures on most interesting subjects have been delivered to the members of the Board, which must be too fresh in the memory of the gentlemen here present, to render it necessary for me to dwell upon them. It may be proper, however, to observe, that these lectures are not intended solely for the members of the Board; but that, as soon as they are matured, they are to be printed for the information of the public, and the attention of those intelligent gentlemen, by whom they were delivered, directed to other objects. As little time as possible, I hope, will be lost in printing these valuable productions; for the curiosity of

* From a philosophical chemist, however great his talents, we cannot reasonably expect the practical application of his own hints; but Mr Davy, in a late lecture, made an observation which may prove of great importance. It is well known, that in those districts where clover has been long cultivated, that crop is almost sure to fail, if repeated in every course of four or five years; and this failure has had bad effects on the productiveness of the wheat crops. The farmers have, in such cases, been obliged to sow it no oftener than once in two courses. Mr Davy has found so much gypsum in the ashes of clover, that he conjectures the failure of the plant may be caused by the gypsum being exhausted: to replenish the soil with so cheap a manure, would be a most easy cure; and the experiment deserves a trial by every practical husbandman, who has had experience of any failing crops of this plant.

† Mr Wood, who is remarkably attentive to the management of his horses, has observed, that when any horse has a wound, the only chance of a cure, if it be a bad one, is keeping him from water. He had some cases so bad, that cures were despaired of; but by an absolute prohibition of water, till the wounds run good matter, he has effected several surprising cures. May not this furnish a hint applicable to other cases?

of the public will naturally be strongly excited to read the sentiments of Mr Young on tillage and farm yards, and of Mr Walker on the construction of implements of husbandry; and to know how the splendid discoveries of a Davy can be applied to agriculture.

X. *County Reports.*—The idea of ascertaining the agricultural state of every district in the kingdom, and of printing each survey, according to one uniform model, is the greatest undertaking ever attempted by any institution; and, though carried on with funds extremely inadequate to such an attempt, yet it is at last in a fair way of being happily accomplished. All the counties in England will be completed in the course of this year. Several will remain to be done in Scotland, for the execution of which fit persons can be procured, as soon as adequate funds are obtained for that purpose. In the course of this year, five reports have been already printed, and eight transmitted to the Board in a state ready for publication; so that the progress has been considerable, and the termination of this most important undertaking, by which so large a proportion of the funds of the Board has hitherto been absorbed, is probably at no great distance.

The advantages to be derived from these reports, are universally recognized in foreign countries; for the same plan has been already adopted in France and Russia, and will probably be imitated in every other civilized country. A letter has lately been received from a celebrated agriculturist in France, in which he states his opinion, 'that such a measure is the most useful that can be undertaken, for bringing, in a short space of time, agriculture to a high degree of perfection.' * Indeed the information furnished by the various reports and communications published by the Board, far exceeds what is generally apprehended. Dr Coventry, Professor of Agriculture in the University of Edinburgh, who, from his situation, is led to examine every work connected with the subjects on which he lectures, has recently declared, 'that in these late reports and publications, there is detailed more useful and distinct information, on various branches of agriculture, and on rural concerns in general, *than was in print before these were drawn up.*' † What then may not be expected, when all these reports

* The French expressions are, 'Je crois que ce travail est le plus utile de tout ceux qu'on peut entreprendre, pour amener, dans un tres court espece de temps, l'agriculture a un grand degré de perfection.'

† See Discourses explanatory of the Object and Plan of the Course of Lectures on Agriculture and Rural Economy, by Dr Coventry, 1 vol. octavo, printed at Edinburgh, 1808, p. 187.

reports are completed, for little more than one half of them were printed, when this idea of their merit and utility was formed by Dr Coventry.

XI. *Code of Agriculture.*—The great object of all the inquiries carried on by the Board of Agriculture, is with a view of combining the result of the whole into one general code, for the purpose of rendering a general knowledge of the principles of husbandry more easily accessible. The importance of such an undertaking need hardly be dwelt upon, not only in regard to agriculture, but also as furnishing an example of the practicability of condensing human knowledge regarding other branches of art and science. Such a work could not be drawn up, until a foundation was laid, by a careful examination of the agricultural practices of every district in the kingdom. As soon as that work is accomplished, the code of agriculture will be carried on with energy; a specimen of which has been printed and circulated by the Board, on the subject of enclosures. It is proposed, when the work is undertaken, to give distinct heads or chapters to those individuals who are the most conversant in each department of husbandry. This great undertaking will, I trust, be sanctioned by the peculiar approbation both of the Legislature and of the Government of the country, as likely to promote, in a high degree, the most important national improvements.

XII. *Importance of Agricultural Pursuits.*—No country can have stronger inducements to attend to its agricultural interests than Great Britain at the present moment. Secluded from so large a proportion of the globe, and its commerce cramped in every direction, it must, in a great measure, rely on its own internal resources for its security and strength. Fortunately, in these resources, it has a mine of wealth which cannot be exhausted. We have only to pay the necessary attention to the improvement of our own soil, and we may despise the efforts of our enemies, however numerous or powerful. We are told, indeed, 'that from the state of our foreign relations, and the consequent probability that our usual supply of grain from foreign countries may fail us, that measures of precaution are necessary, which may eventually ward off so great an evil as a scarcity of provisions.'* But the best precaution is, to extend our agriculture, to increase the productions of our soil, to ameliorate the mode of its cultivation, and to remove every obstacle hostile to its improvement. By these means, judiciously applied, instead of importing from foreign countries, we might soon again become an exporting country; and the com-

* See the Report of the Sugar Distillery Committee, p. 13.

merce of grain, instead of being the means of impoverishment, would become a source of wealth.

CONCLUSION.

Before concluding this Address, I cannot deny myself the pleasure of presenting to the Board the proof of an engraving, † executed from the bust of that distinguished personage (the late Duke of Bedford), who, whilst he was alive, took so warm an interest in all our proceedings. An engraving from that bust cannot fail to be acceptable to every true friend to rural improvement; and indeed, I hope that the Board will approve of the idea, that a certain number of copies shall be placed at the disposal of the noble Duke by whom that bust was presented, and that every member of the Board, and indeed every individual distinguished by his zeal for, and devotion to, agricultural pursuits, shall receive a copy, as a memorial of a character so illustrious in various respects; but peculiarly distinguished for his determined attachment to the cause of husbandry. In the memorable words made use of by Mr Fox, when he moved a new writ for Tavistock,—'To contribute to the welfare of his fellow-citizens, was the constant unremitted pursuit of his life; and, by his example and his beneficence, to render them better, wiser, and happier.' How few are there who have any just claims to a similar eulogium!

I shall conclude with expressing my sincere hopes and wishes, that we shall meet next Session in health and spirits, and as anxious as ever to promote the improvement and prosperity of the country.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations upon the Copy of a Lease inserted in last Number.

SIR, *Lauriestón, 1st July*, 1808.

UPON the perusal of the excellent specification of a lease contained in your last Number, the only clause which appears to afford any room for improvement is the following:—'And to maintain and keep in good condition, during the currency of the lease, the whole houses, drains, or water-courses, fences, and gates, on the said farm, and to leave them in *a proper state of repair* at his removal.' It may be said, (and those who have experienced the greedy and captious disposition of many outgoing tenants, know the truth of it), that the expression '*proper state of repair*,' is by far

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† The drawing is executed by Mr Burney, and the engraving by Mr Anker Smith, in a manner that does great credit to both these artists.

far too indefinite. Might not the clause, therefore, be better conceived in the following manner?—'*And to maintain and keep in good condition during the currency of the lease, and leave so at the expiration thereof, or at his removal, the whole houses, drains, or watercourses, fences and gates on the said farm,* ALL THESE BEING VISITED AND APPROVED AS IN SUCH CONDITION, BY TRADESMEN, OR PROPERLY QUALIFIED PERSONS, MUTUALLY CHOSEN BY THE PARTIES.'

Yours most respectfully,
J. B——K.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Method of making Cider in the County of Kirkcudbright.

SIR, *Stewartry of Kirkcudbright, 5th Auguſt,* 1807.

IF you conſider the following ſhort account of a ſimple method of making cider, entitled to a corner of your uſeful and intelligent Magazine, I ſhall be peculiarly gratified. It was practiſed with ſucceſs laſt year in this county; and the ſame mode may be adopted in other parts of Scotland, where cider has not hitherto been manufactured. If poſſible, I am particularly anxious that it ſhould appear in your firſt Number, and before the ſeaſon for making cider has elapſed.

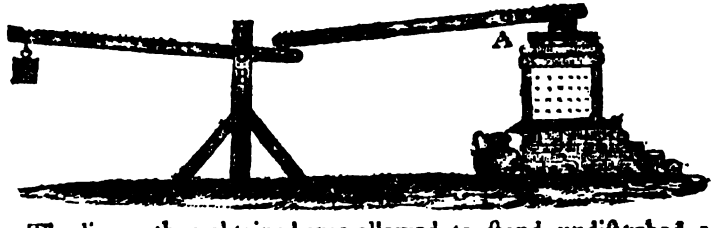
In the year 1806, the orchards in Galloway produced a very full crop. Apples were ſo plentiful, that thoſe of the fineſt quality could only be ſold for about 3s. per Wincheſter buſhel, while the inferior kinds were not ſaleable at any price; and, rather than loſe the fruit entirely, it was propoſed by the proprietor of an orchard in this county of conſiderable extent, to attempt, by way of experiment, the manufacture of cider. Although ſome of thoſe perſons immediately concerned with the orchard had been both in Herefordſhire and Devonſhire during the cider ſeaſon, none of them knew the proceſs very correctly. Additional information was obtained from Marſhall's Rural Economy of Glouceſterſhire, and a fair trial commenced. The uſual apparatus could not be procured for immediate uſe; and the following method was reſorted to with complete ſucceſs.

The apples were reduced to mucilage, by beating them in a ſtone trough (one of thoſe uſed at pumps for watering horſes) with pieces of aſh poles, uſed in the manner that potatoes are maſhed. The preſs conſiſted of a ſtrong box, 3 feet ſquare, and 20 inches deep, perforated on each ſide with ſmall auger or gimlet holes. It was placed on a frame of wood, which projected 3 inches beyond the baſe of the box. A groove was cut in this pro-

jection 1¼ inches wide, and 1 inch deep, to convey the juice when preſſed out of the box into a receiving pail. This operation was performed in the following manner. The box was filled alternately with ſtrata of freſh ſtraw and maſhed fruit, in the proportion of one inch of ſtraw to two inches of mucilage: theſe were piled up a foot higher than the top of the box; and care was taken, in packing the box itſelf, to keep the fruit and ſtraw about one inch from the ſides of the box, which allowed the juice to eſcape freely. A conſiderable quantity of the liquor will run off without any preſſure. This muſt be applied gradually at firſt, and increaſed regularly towards the concluſion. A box of the above dimenſions will require about two tons weight to render the reſiduum * completely free of juice.

The neceſſary preſſure was obtained very eaſily, and in a powerful manner, by the compound lever preſſing upon a lid or ſink made of wood about 2 inches thick, and rendered ſufficiently ſtrong by two croſs-bars. It was made to fit the opening of the box exactly; and as the levers forced the lid down, they were occaſionally ſlacked or taken off, and blocks of wood were placed on the top of the lid, to permit the levers to act, even after the lid had entered the box itſelf. Additional blocks were repeated, until the whole juice was extracted. The preſſure may be increaſed more or leſs, by adding or diminiſhing the weight ſuſpended at the extremity of the lever.

I annex a ſection of the preſſing machine roughly ſketched. It requires little explanation; but it may be neceſſary to ſtate, that the fulcrum of the firſt lever at A, was fixed in the ſide-wall and gable, acroſs, at the right-angled corner of a brewhouſe, allowing room for the box to ſtand exactly in the corner, as it was neceſſary to have ſufficient weight above to reſiſt the preſſure upwards at the fulcrum A. The preſſure at the fulcrum B, of the ſecond lever, being downwards, the reſiſtance was eaſily obviated.



The liquor thus obtained was allowed to ſtand undiſturbed 12 hours, in open veſſels, to depoſit ſediment. The pure juice was then

* The residuum is excellent food for pigs, and peculiarly acceptable to them.

then put into clean caſks, and placed in a proper ſituation to ferment, the temperature being from 55 or 60 degrees. The fermentation will commence ſooner or later, depending chiefly on the temperature of the apartment where the liquor is kept; in moſt caſes, during the firſt three or four days; but ſometimes it will require more than a week to begin this proceſs. If the fermentation begins early, and proceeds rapidly, the liquor muſt be racked off, and put into freſh caſks in two or three days; but if this does not take place at an early period, and proceeds ſlowly, five or ſix days may elapſe before it is racked. In general, it is neceſſary to rack the liquor at leaſt two times. If, notwithſtanding of this, the fermentation continues briſkly, the racking muſt be repeated; otherwiſe the vinous fermentation, by proceeding too far, may terminate in the acetous fermentation,—when vinegar would be the reſult.

In racking off the liquor, it is neceſſary to keep it free of ſediment, and the *ſcum* or yeaſt produced by the fermentation. A ſupply of ſpare liquor muſt be reſerved to fill up the barrels occaſionally, while the fermentation continues. As ſoon as this ceaſes, the barrels ſhould be bunged up cloſely, and the bunge covered with roſin, to prevent the admiſſion of air. If the cider is weak, it ſhould remain in the caſk about nine months; if ſtrong, twelve or eighteen months is neceſſary before it ſhould be bottled.

The cider made in this county laſt year, was manufactured from 42 Winchester buſhels of apples, in the manner above deſcribed. That quantity produced about 2 hogſheads, of 63 gallons each. The total expenſe 18s., excluſive of the apparatus, which coſt nearly 24s. It was bottled at the end of nine months; and the quality is unexceptionable.

Although the fruit this ſeaſon, in Galloway, is not ſo plentiful as it was laſt year; yet, in ſome ſituations, and under certain circumſtances, it may ſtill be adviſeable to try the manufacture of cider.

I had no intention of tranſmitting you the above account of the manufacture of Galloway cider till laſt night, when I was adviſed by a friend to do ſo. I truſt you will therefore excuſe inaccuracy. I am, &c. FILL BASKET.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

ALLOW me to ſend you, for inſertion in the Farmer's Magazine, a ſhort account of the late Dr Alexander Ainſlie, who reſided ſome

time in the family of Lord Kames, and was the intimate friend of the celebrated Dr Cullen. I alſo ſend you four letters from Dr Ainſlie to his couſin the late Mr John Ainſlie, farmer at Abbay, near Haddington, which throw ſome light on the ſtate of huſbandry at their date: likewiſe, "Reflections upon the Principles of Agriculture;" which, I have reaſon to believe, were abridged from an eſſay given by Dr Ainſlie to the Edinburgh Society. I ſhowed the Abridgement to Dr Coventry, who thought it very ingenious; but, from a paragraph in one of the letters ſent you, he ſuppoſed the work from which the Abridgement had been taken, was executed by another perſon. I could not ſee that any paragraph warranted this concluſion; and am ſince confirmed in my opinion, that the work from which the Abridgement is taken, was Dr Ainſlie's own performance; for I had in my poſſeſſion, a few days ago, a large ſilver medal, which I have returned to Mr Alexander Ainſlie, Prince's Street, Edinburgh, the Doctor's nephew, which almoſt puts this out of doubt. On the obverſe of the medal, theſe words are engraven,—"*To Dr Alexander Ainſlie, Haddington, for the beſt Diſſertation on Manures, 1757.*" Legend, "*The Edinburgh Society.*" On the reverſe, "*Merenti,*"—both ſtruck.

Dr Alexander Ainſlie was the oldeſt ſon of Mr Alexander Ainſlie, writer in Dunſe. He ſtudied phyſic at Edinburgh, and was graduated at that Univerſity, on the 15th June 1754. About this time, he lived in the family of the late Lord Kames, and made many obſervations on his Lordſhip's mode of farming, in letters to a friend. After leaving Lord Kames, he ſettled as a phyſician in Haddington: but, impreſſed with a ſtrong inclination to viſit foreign countries, he accepted of the ſituation of a travelling companion to the heir of the Caſtlemilk family, then in Italy. For that country he ſailed in 1758, in the ſhip Concord of London, Captain Boyton. This veſſel foundered almoſt at the very moment Dr Ainſlie had retired to dinner with the captain, after loſing ſight of Great Britain; and all on board periſhed, except the mate.

Dr Ainſlie was a man of great ingenuity, and much regretted by thoſe who knew him beſt. He was highly eſteemed by the late Dr Cullen, with whom he became intimately acquainted ſoon after Dr Cullen's arrival in Edinburgh. I am, Sir, yours, &c.

A FRIEND.

Extracts of Letters from Dr Alexander Ainſlie, to his couſin Mr John Ainſlie, farmer, Abbay, near Haddington.

I. *On breeding Calves, &c.—from Letter, dated 16th April, 1754.*

'You may remember I promiſed, at our laſt meeting, to communicate whatever I found worth relating in Lord Kames's method

method of huſbandry; and that I may go on regularly, and perform my promiſe ſo far as I am able, I intend the following part of this letter as a preface to the work, which I ſhall continue as I make my obſervations, and as I find convenient opportunities of communicating them to you. Firſt, then, I would inform you, that one great diſadvantage which I labour under, is his Lordſhip's niggardlineſs of communication in this affair, which obliges me to uſe the greater circumſpection, or have recourſe for information to his ſteward. Next, I would have you remember, not always to expect things very material or new; becauſe, what may appear to be ſo to me, may have a quite contrary aſpect to you: however, I hope you will receive the good intention, as if it were a complete execution. You muſt likewiſe diſpenſe with all regularity, becauſe I ſhall always write down my obſervations as they occur. In my next letter, I ſhall begin with an account of the farm-ſtocking, &c. At preſent, I ſhall acquaint you that my Lord has this ſpring ſold twelve large oxen which were fed all winter upon hay and turnip. Some of them were extremely large and fat; but the moſt of them were about the bulk of your laſt year's B. M'Call. They ſold from 13l. to 20l. each; and one of them at 18l., killed in Dunſe, had 11 ſtone of tallow.

'I muſt likewiſe ſend you this information for the benefit of my aunt, that never one of our calves taſtes a drop of new milk, whether they be deſigned for ſlaughter or any thing elſe. All they get inſtead of milk, is a handful or two of lintſeed boiled in water till it ropes pretty much, and ſometimes mixed with a little ſkimmed milk. This is their diet; and, upon my word, I don't think I have ſeen larger calves any where than they are, though their mothers are only of an ordinary ſize.

'I found out this forenoon, that my Lord allows his ſervants to labour as much of his tough intractable ground as they pleaſe to plant with potatoes, and to reap the fruits of them, providing they leave the ſhaws behind them. He gives them ſome dry chaff in place of manure; and I ſee ſome of his formerly uſeleſs pieces of boggy ground (as they tell me) put on a good appearance only by this treatment.'

II. *On Planting Potatoes, &c.—from Letter, dated 3d May, 1754.*

'The ground juſt now in his Lordſhip's hands, is computed about 250 acres, which are divided into 26 encloſures ſurrounded with hedges and ditches, and here and there adorned with a ſolitary tree, a circular clump upon any riſing ground, or a defence of planting along any of the moſt expoſed ſides. Wherever the regular diſpoſing of the ridges leaves any angular, irregular ſpace, or wherever there is a corner wetter or more untractable than the reſt of the field, there trees are planted. The greateſt part of

theſe enclоſures is laid out in graſs; and ſo many only kept in tillage as afford employment for three ploughs, two of which are drawn each by a yoke of oxen, and as many horſes; and the other by four horſes. The number of theſe ploughs will ſoon be diminiſhed, becauſe he intends to throw moſt of it into paſture ground. The labouring inſtruments differ little from the common. One plough has its head entirely iron, which I imagine I need not deſcribe to you; nor indeed can I do it. However, if I thought it would be new to you, I believe I could make a draught of it. The harrows are all chained in pairs, and their teeth are made conſiderably hooked, with a ſharp thin angle before; an obtuſe one on each ſide; and rounded behind. They are ſomething in this ſhape. I obſerve an inſtrument which they call a foot-hoe, with which, I think, one man does as much work as two uſe to do with a common one in looſening earth before the ſpade; raiſing out ſtones, though conſiderably deep; raiſing up long roots, entire thiſtles, &c. without defacing the ground; and all with the greateſt eaſe, on account of its figure, the length of the lever the workman acts with.—(*Vide* end of letter.) I have not learned enough of the ſucceſſion of grains in cropping, to be able to ſay any thing ſatisfactory of it; but I can ſee there is ſomething in it quite new to me; of which, perhaps, I may be able to ſay a little afterwards.

'In the mean time, we fallow ſtoutly; marl the fallow ground, (becauſe there is great abundance of that manure in our fields), and reſerve always a conſiderable ſhare of what is to be fallowed for turnip and potatoe, and on that beſtow all the dung-manure. Whether any benefit is propoſed to the ground from turnip and potatoe, more than from common fallowing, I have not yet learned. But this ſeems evident to me, that the ground is equally well fallowed; the noxious weeds as well eradicated, (which I look upon as the principal article); and a conſiderable gain made from the produce, either by feeding cattle with the turnip, or by ſelling the potatoe, (which is done here for oats, meaſure for meaſure, the oats being both brought to the houſe, and the potatoes carried away by the buyer), or by feeding the horſes with them, (which his Lordſhip does, only mixing them, when boiled, with chaff, and giving them this inſtead of corn.) *N. B.* I am not certain whether this horſe-diſh might not be a pretty good ſuccedaneum to, and ſit as eaſy upon the human ſtomach, as potatoes boiled in milk. The method I ſee uſed in planting the potatoes, is this.—

'After having the potatoes cut into parts, according to the number of their eyes, and the field laid down in ridges about ſix feet broad (at leaſt I meaſured this breadth in a field planted the other day), they begin in the furrow, and, laying all along it a ſmall portion

portion of rank dung, or any other kind, (though I would prefer the rankeſt, not indeed from practice, but theory), they drop in the potatoes at about eight or nine inches diſtant from one another. This being done,—with a plough drawn by three horſes yoked before each other, and having a tranſverſe bar of iron fixed in a particular way to the end of the beam, which reaches about a foot towards the land, and has nitches at different diſtances for regulating the draught, (for the draught is made upon this tranſverſe bar, that the horſes may eaſily walk out of the furrow, and avoid bruiſing the ſeed), they lay over a furrow about ſeven inches deep upon the potatoes; and, coming down on the oppoſite ſide, they lay off another to meet the former, and form a ſmall ridge. This is all that is yet done. When and how they begin to till the intermediate ſpaces, I muſt afterwards obſerve.

'The hedges here have been put into charming order this ſpring. The method of doing them, to the beſt of my knowledge, is this. With any old hook, all the matted graſs is picked away from the roots; then, having a little cleared that ſide of the ditch on which the hedge is placed, they begin as high or as low as they can find a ſure foundation, (which they are often obliged to make with the ſpade), and there lay a large ſod, (cut anywhere from the neighbouring ground), with its graſſy ſide outmoſt, and inclined towards the root of the hedge, in a degree not quite ſo great as the natural inclination of the ſide of the ditch, but a very little more erect. This being laid firm, they go on to heap ſod above ſod, in the very ſame manner, till they have reached conſiderably far up the trunks of the buſhes, (the rule perhaps may be, till the lateral branches begin to riſe out pretty thick.) Great care is taken to build in among the ſods any twigs that may come in the way, both to ſecure them from ſliding, and for a reaſon I ſhall mention immediately. The top ſod has its graſſy ſide laid undermoſt, that leſs graſs may ſpring up among the thorns; and nothing but ſome earth is heaped upon the back of the hedge as high as the ſtructure upon its breaſt reaches. The ſods are not preſſed very hard upon one another, for fear of hindering the progreſs of the thorn roots, and the ſudden union of the ſods with the earth. This breaſting of hedges, as it is called, looks admirably well, ſtrengthens the fence, and muſt be of ſurpriſing benefit to the growth of the thorns. You know that all branches of trees, if not very old, when buried in the ground, are converted into roots; and that all trees increaſe in proportion to their number of ſound roots buried in a convenient ſoil. When hedges, therefore, are treated in this way, not only all noxious weeds are rooted out, but a great many of the twigs, and a good part of the ſtem of the thorns, which were formerly uſeleſs, (nay helped to conſume a great deal

of

of the nouriſhment of the plant, and were therefore hurtful), are converted into roots, ſupply nouriſhment to the part above ground, and muſt contribute to its ſudden and vigorous growth.

'I ſee very good thorns propagated from the roots of them, when young, being cut into pieces of half an inch length, or lets, and ſown in rows. I am told they thrive better, and are ſooner for uſe, than thoſe that are raiſed from the ſeed.

a, The handle, about two feet long. *b*, The head, made of iron, and pointed like the ſock of a plough, one foot long. *c*, For the workman to preſs his foot upon, of iron, about ſix inches long, and drove down between the head and the handle to fix it.

'*N. B.* You may obſerve ſomething not very diſtinctly marked, which ſeems to be extended over parts of the head and handle, and to join them together. This is a band directly like what joins the ſeams of the ſegments which compoſe the outer circle of a cart-wheel.

III. *On the Culture of Potatoes, &c. From Letter, dated 16th June, 1754.*

'The ſeaſon of marling is now come on; ſo that in a few weeks you may expect a full account of the whole process used in the application of that manure. I have likewiſe juſt now in my hands a MS. on the principles of agriculture, wrote by a very learned chemiſt, for the uſe of Lord Kames. It is done in a plain, ſenſible way, and, indeed, ſo far excels any thing of the kind I ever had occaſion to ſee, that I heartily wiſh I could procure you a reading of it. I ſhall, however, make notes out of it that ſhall ſerve as remembrancers, by whoſe aſſiſtance I may be able to explain to you the whole ſcheme, the firſt time I can have the pleaſure of ſeeing you.

'The potatoes had another furrow laid to on each ſide, a few days ago, by a light plough, drawn by two horſes. A field of wheat, which had the appearance of being too ſtrong and thick, had a good many ſheep put on it for 10 days about the end of April. Almoſt all the barley and wheat fields were rolled, even after the grain had ſprung a conſiderable way. It was done with a large wooden roller, drawn by two horſes across the ridges. By this it is propoſed to apply the earth to the roots of the plants, that they may be defended from too ſtrong effects of the ſun and wind; that the rain may neither penetrate too faſt, and be applied to the roots in too great quantity at a time, nor afterwards be ſuddenly exhaled from the lax earth; and that the roots, by the compreſſion of the ſurface, may be diſpoſed to ſink deep into

to the soil, where they may be less exposed to be nipped by the cold, or shrivelled by the sun. The benefits accruing to the roots of grain plants from this practice are numerous. Sap is furnished liberally, and in a better prepared state, to the stem above ground, which is thereby enabled to grow more luxuriously, and to produce a greater quantity of grain than it would otherwise have done. Besides, as a greater quantity of nourishment is prepared and sent upwards (if the operation is done at a proper time), so, a greater number of stems must come from one root, than would have been got had the operation been neglected. I ought to have mentioned, that rolling is only used in the loose or lax grounds.

'I am just now making some experiments, by Lord Kames's desire, in order to determine what may be the difference between eating pasture grounds very bare, and never eating them below a certain height; and likewise the difference between pasturing and taking crops of hay. These experiments are meant to ascertain which of these practices do greatest injury to the plants. Though I have no notion of their being decisive, you shall be acquainted with the result as soon as the experiments are completed.

'John Home, the poet, was lately at Kames; and since he went away, Andrew Wight at Ormiston, who is a great favourite in our family, spent several days with us.'

IV. *On Ploughing up Potatoes, &c. From Letter, dated 26th October*, 1754.

'Notwithstanding the promise in my last, not to trouble you any more with matters relative to husbandry, I must beg leave to complete my history of potatoes. This week, the stems of the plants being very much decayed, our people began to turn over the ground, in order to gather the roots. This was done by a plough drawn by two horses, which begins at the outside furrow of each ridge, and lays off the ground in the same order in which it was formerly laid on. They plough just as deep as they laid the dung at planting, for none of the roots are lower. After the plough, a number of children follow with baskets, who gather up the loose potatoes; and the furrow slice is then turned back, or digged up by several men with forks or grapes, who are followed by another set of gatherers. When the whole field is gone over in this way, and the potatoes carried home, a man with a cart goes and collects the scattered stems, which are laid in a heap, and covered with dung, to promote putrefaction. Then the field is harrowed, and the stems again gathered. A second ploughing is then given, and the remaining potatoes are picked up. Part of the field was sold beforehand at so much per drill, and was taken up by the buyers. Two or three drills

drills were, however, first taken up, and their produce ascertained. These drills generally yielded two bolls each, and the price was 9s. per drill, or 4s. 6d. per boll, besides the expense of taking them up. I remarked the following particulars when the potatoes were taken up. 1. That none of the potatoes were hurt by the plough. 2. That none of them lay so deep as the dung, most of them being near the surface. 3. That very few fibres were extended laterally, the roots being heaped up within six inches on each side, and not many even at that distance. From these observations, the potatoe ridges are in future to be confined to the breadth of three feet.

'I have been lately employed in trying different methods for propagating the blue grass vetch; but the success of these experiments cannot be known till next season. I am,' &c. &c.

An Abridgement of some Reflections upon the Principles of Agriculture, 1754. By Dr Alexander Ainslie.

THE cases that occur in agriculture are so various, that the most experienced often find themselves at a loss how to proceed, though the art has now subsisted for so long a time. Therefore, some general principles are necessary to be laid down, from which particular cases may be more easily explained. A little knowledge in natural philosophy, with careful observation, might soon establish such general principles among the practitioners of the art, as would, in a good measure, raise them above their present state of uncertainty.

The present inquiry is confined to, 1*mo*, The nature of the nourishment of plants; and, 2*do*, The proper method of applying it.

§ 1.—The nourishment of all plants is the same common juice, drawn from the earth, &c. and altered, by a certain transmitting power, into the proper aliment of that plant by which it is taken in. For, 1*st*, We see the same parcel of matter put on very different appearances, according to the powers operating upon it; as in chemistry, and in the nourishment of animal from vegetable, and of vegetable from mineral bodies. 2*do*, All vegetables, by putrefaction and chemical examination, afford the same principles, few in number, but in different proportion. 3*tio*, Soils chemically examined afford the same principles in different proportion; and animal or vegetable manure added to these soils, always assumes the same nitrous quality. 4*to*, It does not appear that plants have any nice elective power, but take in whatever is offered to their roots dissolved in water; so that, if there was different

ferent juices in the earth, they might as well assume the noxious as proper, as we sometimes find they do, when it is presented to them. *5to*, We actually find an assimilating power in plants, as in grafting; and the juice of the roots is often very different from what is found in the trunk, leaves, flowers, &c. *6to*, Five hundred different kinds of plants may grow in one spot of earth, or parcel of water. *7mo*, Plants growing near together rob one another of aliment. *8vo*, Though one species of grain will not grow long in one ground, that is, because the texture of the soil alters, and the due proportion of nourishment for that kind of grain is wanting.

§ 2.—The nourishment of vegetables, therefore, is the destroyed matter of vegetables themselves, whether it is found in the bodies of animals, in the air, in the waters, or in the earth covering the surface of the globe; in which last place the husbandman must collect it. Vegetables do not nourish other plants till putrefied, and even then not till they have undergone some further preparation. But they then are only altered into a substance fit, under proper management, for affording nitre; and nitre itself promotes vegetation. All fertile soils afford nitre, and the method used by the farmer to fertilize his ground, is alike in many things to that used for the making of nitre. For, to the production of nitre in any place, there is necessary, 1*st*, Putrid or putrefying matter, from vegetables or animals. 2*d*, An earthy matrix, or foundation, by which the nitrous matter is collected, and contained in its pores. 3*d*, Free access of air; both as it promotes the change, and as it is always more or less filled with the exhalations of putrid bodies. 4*th*, The application of quicklime, or some salt of the same nature; for these, and some other earths, as of the marl kind, are found greatly to augment the quantity of nitre in any compost. 5*th*, A certain degree of heat; for too small checks all putrefaction, and too great carries off the matter of nitre. No nitre is ever collected on a south wall. 6*th*, A certain degree of moisture; for much hinders due putrefaction, and likewise hinders the plentiful absorption of the nitrous matter into the earth, and makes it more easily carried off by sun and wind; it besides much retards the nitrous process, and makes the nitrous matter rather converted into a vitriolic body, as in tough clay. Hence the aliment of vegetables seems to be of the nitrous kind.

Soils.—In choosing of soils, that is best which is properest for the collection of nitre; and that is where there is a sufficient proportion of marl. (Here we do not consider vegetable earth, but the pure soil.) All earths may be reduced into two kinds, marl and clay. Marl is a friable earth, of a smooth, unctuous

taste,

taste, of little viscidity or toughness when moist; readily dissolvable in water, but slow in subsiding, and slow in concreting firmly when dissolved; fermenting with and dissolving in vinegar; acquiring no additional hardness in the fire, but falling down to ashes, and with difficulty of itself reduced to glass. Clay is a firm earth; of an astringent taste; of considerable toughness when moist; not readily dissolving in water, but quick in subsiding and growing hard afterwards; not fermenting nor dissolving in cold vinegar; growing very hard in the fire, and reducible to glass. These two kinds are often found mixed. Marls are fittest for collecting nitre, and the aliment of plants; and soils are more or less good as they approach more or less to that earth. The unfitness of soils in general is from a want of earth, or from its being too much a clay, to which all the earths, when uncultivated, degenerate. This last depends on the presence of a vitriolic acid, and may be corrected by rendering the acid of a neutral nature by quicklime, or by converting it into the nitrous; either by applying putrid substances to the earth, or by putting it in a condition to attract them from the air. Moss is not to be considered as an earth, but a vegetable substance altered in its appearance. A heap of tanner's bark, in time, becomes real peat. In moss, there is not found any nitrous, but only a vitriolic salt, so mixed with oil that it cannot enter the roots of plants. It is corrected by quicklime, ashes, or marly earths, which mix with the oil, and make it dissolvable in water. The soil being prepared, it must be impregnated with animal or vegetable substances, by adding them directly as in manuring, by collecting them from the air in fallowing, or from the water, in water-fattening.

Manuring—Is an application of animal or vegetable substances to soils. These ought only to be applied when putrefied, or in such circumstances as may secure their immediate putrefaction. Animal substances putrefy in any situation, but vegetables only when in heaps; otherwise they insensibly dissipate. To promote putrefaction, the heap should be large; not too moist, nor too dry, nor too much exposed to the wind. Different substances yield different proportions of good manure, but this quality is the same in all; viz. a nitrous acid and a volatile salt involved in oil. The more thoroughly substances are putrefied, the more manure they afford. Substances belonging to animals of a hot nature, as birds, and that feed upon grain, or flesh, are most putrid; and the more solid these parts are, the more manure they afford, but putrefy more slowly. The same holds in vegetables; which, besides, if lax and watery, give more putrid matter by being a little dried before they are heaped up. Alkalescent plants, as turnip, radish, &c. give more than the acescent, as lettuce.

Fallowing

Fallowing—Is exposing the soil in a dry state to the air, that it may attract the animal and vegetable matter, which is always there in considerable quantity. Moisture from the air (as dews) contains a small portion of the above manure. This, in the night, is sucked in by the soil, and next day, the water flies off, and the manure is retained. This being every night repeated, the earth must soon be considerably impregnated. Hence dewy nights and dry days are best for fallow ground; and winter fallows, or in wet climates, never do service, for a reason given before in 6th article of the produce of nitre, and because there is then less manure in the air. The surface of the soil only attracts, and most briskly when often renewed; therefore it should be made as large as possible, and often turned over; by which means also, the attracted manure will be concealed from the sun, and its dissipation prevented. The drier and more alkaline the soil is, the sooner will it be impregnated.

Water-Fattening.—All water, particularly that from cities, on stagnating and putrefying, lets fall a good deal of putrid manure. Hence the fertility of soil recovered from water, and the advantage of allowing water to stagnate on grounds till it lets fall its slime. The water ought not to be allowed to evaporate gradually, but be drawn off at once, and when the heat is not so great as to exhale the nitrous matter, else you lose your manure. The vegetable and nitrous matter is dissipated; you have a vitriolic acid in their place; and your soil, by frequent gradual evaporation, is converted into a stiff clay, as happens from poaching, wet furrows, and flat grounds: Whereas, by alternate drenching and sudden drying, as above, earth may be resolved into any degree of firmness.

Lime.—Besides vegetable matter, lime is necessary to prepare it for being aliment to the plants, by absorbing, retaining, and separating the oily parts, and thus rendering them soluble in water. The quantity of lime to be applied, since it is a caustic when unmixed, should be proportioned to the quantity of earthy or vegetable matter in the soil, which can serve to alter its acrid nature. The more perfectly prepared the nourishment in any soil is, the better is the crop, and the sooner it is exhausted. Hence lime, thoroughly putrefied bodies, pigeons' dung, and soot, as preparing the aliment thoroughly, are said to exhaust the field in a few years. Ground new taken up, or trenched up, contains well prepared vegetable matter, yields fine crops, but soon fails. Hence there is danger in frequent uninterrupted croppings of such free soil. As to some limes binding the soils, that is a fable; for the effects of lime neither depend on its binding nor opening, but in attracting nitre, which old rubbish is found to do in a consider-

able

able degree. Some limes are, indeed, stronger than others, but not from their binding or opening more. It is from their being more or less perfect quicklime, or strong in the qualities that distinguish that substance. In order to try the different goodness of lime, I would propose to examine how much of any limestone is soluble in vinegar; as it is probably only so much that is calcinable into quicklime. *2d*, To lixiviate quicklime with water, and precipitate this by different matters; or to precipitate metals by it. *3d*, To examine the quantity of quicklime soluble in vinegar. *4th*, To examine the increase of fixed alkalis after lixiviation with it. There is a volatile part in quicklime which flies off by allowing it to be gradually slaked by the air; by which method also, the falling is gradual, and often imperfect; and the lime sometimes concretes into large masses, and cannot be so well dispersed over the field; therefore, water-slaking at the kiln is best. The lime should be applied dry to the soil, likewise dry; and if it cannot be done immediately, it should be reserved free from moisture.—*N. B.* Old rubbish, or lime slaked in any way, is sufficiently good manure.—The effects of frost, though seemingly contrary to the doctrine of the production of nitre, is not so; for all frozen bodies are more apt to putrefy upon thawing than formerly; and frost, besides, alters the texture of the soil considerably.

§ 3. *Of the Application of Nourishment to the Roots of Plants.*—For the formation of roots, there is necessary, *1st*, A fluid nourishment. *2d*, Earth moistened with this; for all plants are naturally attached to the earth, and between it and their roots there is an attraction; whence they push down. Earth is likewise necessary for applying and retaining the moisture; for too much moisture hurts, either from the want of earth to attract and produce roots, or from the moisture distending and bursting the fibres of the roots, or from exposing them too much to the effects of frost. *3d*, A soil pervious readily to moisture, and the roots of plants; for the plants usually cultivated push weakly, and demand a friable soil, in which their roots may be easily extended, and the number of the absorbing fibres (on which the strength of the plant depends) increased. This proper consistence is brought about, *1st*, By a due mixture of earthy and stony matter; for all pure earths are apt to concrete into too hard masses after being moistened; but stony matter, or sand, may render them more free. Sand cannot be used to stiff clays till after other proper manuring, else they make it concrete more firmly (as we see in pottery), instead of opening it. And in other soils, very little is commonly wanting; which, besides, cannot be mixed with the soil but by prodigious labour. Therefore sand, in general,

general, is rarely useful; and where its use has been attended with any great success, it has been owing to other matters mixed with it, as shells and salt. *2dly*, By a due application of moisture and sudden drying (see before p. 357, *Water-fattening.*) This, indeed, is seldom in the farmer's power; but by observing the effects of it, he may be directed in other affairs. Besides the bad effects of too much moisture mentioned before, it separates the real earth from the sand, and makes them subside in different beds; hence tills are formed. When grounds are ploughed wet, their moisture and slow evaporation make them concrete very firmly. *3dly*, By the application of heat and cold. Heat promotes the penetration of moisture, and, with dryness, hastens evaporation; hence it procures the good effects of moisture and dryness. Cold, when freezing, renders the air in the water elastic, and powerfully divides the parts of the soil. Snow does good by confining the perspiration of the earth, and by the vegetable slimy matter it leaves behind it. If snow and frost go gradually off without rain, these good effects are obtained; but much rain drenches the soil, and exposes it to the effects of slow evaporation mentioned above. From the melting of snow, &c. we see there is a source of heat in the earth, independent of the sun; which comes either from the warm perspiration from the lower parts of the earth, or the putrefaction of vegetable substances in the soil itself. *4thly*, Soils are rendered friable by the action of the roots of plants themselves. The sap, in certain circumstances, moves down towards the roots, pushes them out, and perspires into the earth. This is done with different force, and in different quantities, in different plants; whence the roots will have different effects in dividing the soil, according to their force, the number of their fibres, and the quantity of moisture perspired by them. Next, the number of roots, their force, and quantity perspired by them, may be conjectured from the bulk of the stem and branches, and the strength and luxuriance of the shoots; for I believe, what checks the growth of the one checks also that of the other. Then, while the shoots of the branches and leaves, and consequently the roots, are vigorous, no seed is perfected; whereas, when the seed is ripening, the branches and roots push little, gradually languish, and at last die. Hence moist soils and seasons give a late crop; dry ones an early one, and well filled grain. Hence, in the one state, the soil is divided and preserved moist, in the other it becomes stiff, hard, and dry. Hence, young luxuriant turnip meliorate the soil; but if they stand to seed, they make it hard. Hence potatoes, that only form roots, and no seed, in this climate, make the soil mellow. It has been long observed, that crops of culmiferous plants

leave the ſoil dry, hard, and ſtiff; ſuch are wheat, rye, barley, oats, ryegraſs, &c. On the contrary, crops of the leguminous, as peas, beans, clover, ſainfoin, &c. leave the ſoil moiſt, ſoft, and free. Culmiferous plants have their ſeed appearing all at once, and then the plants languiſh in the puſh of ſtem and roots. They remain in the ground to ripen their ſeed, and, till the whole plant is dried, ſhrunk and dead. Hence they are long in condition of neither puſhing nor perſpiring with their roots; hence they long do not divide the ſoil, but dry it, and give occaſion to its concreting firmly into hard lumps. Leguminous plants have their ſeeds appearing ſucceſſively; and while one part is forming ſeed, another is ſhooting vigorouſly. They are taken from the ground before the ſeed is hardened, or the growth of the plant entirely checked; whence they muſt to the laſt divide the ſoil, and keep it moiſt and friable. Beſides, 1*ſt*, The force of the roots ſeems to be greater in the leguminous than the other kind, for they grow better in a ſtiff ſoil, and cover the ground better, though ſown unequally. 2*dly*, The number of the roots is alſo greater; whence they more effectually kill and ſtarve other weeds. 3*dly*, They have more numerous, broad, and ſucculent leaves; whence we may preſume, they abſorb more plentifully, ſend more ſap to the root, and puſh and perſpire more into the earth. For we find, that ſome very ſucculent plants can furniſh moiſture to the roots for ſome days after they are taken from the ground. Hence the melioration of the ſoil from leguminous crops, which ſeem to have been given us by nature for an alternative to the other kind in cropping. Hence the advantage of taking crops of theſe alternately; which I have known done conſtantly on one ſpot, without fallowing, or any kind of manure, for thirty years. 4*thly*, The texture of ſoils is altered by the addition of certain matter; as, 1. Putrid or putrefying animal or vegetable ſubſtances. 2. Alkaline ſubſtances; as aſhes, quicklime, ſhells, marl. 3. Neutral ſalts; as nitre, ſea-ſalt, ſoot, &c.; which all open the ſoil, and make it more friable. And the 5th way of altering the ſoil is by the plough, ſpade, &c. the diligent uſe of which muſt always be joined to the former methods. But I will venture to ſay, that pulverization alone, without the aſſiſtance of the other manures, can never be of great uſe; ſince, however finely a clay is powdered, it is no ſooner wet again than it recovers all its former ſtiffneſs. The diviſion, indeed, expoſes it to the effects of heat and cold, moiſture and dryneſs, air, &c. and this is of ſome uſe.

FOR THE FARMER'S MAGAZINE.

Account of the Sheep Show at Linplum, 2d July 1808. *With some Remarks on the new Leicester or improved Breed of Sheep.*

THE soil and climate of East Lothian being admirably calculated for corn husbandry, farmers in that district have hitherto devoted their chief attention to the plough, and considered the breeding and feeding of live stock as objects of secondary importance. Perhaps, in giving such a decided preference to the culture of corn, a great error was committed by the East Lothian farmers, it being now pretty correctly ascertained, that alternate husbandry may be more successfully exercised. A regular admixture of leguminous and culmiferous crops, seems, in fact, to be the *sine qua non* of good husbandry. In that way the ground may be constantly preserved from waste or deterioration; a great stock of cattle and sheep may be reared and fed, for supplying the public markets, and enriching the occupier; whilst, after all, as great, if not a greater, quantity of corn may be raised on the premises, as was practicable in former times when a different system was followed. These are matters of much consequence, both to the public and the occupiers of land, and deserve to be noticed in a work of this kind, as intimately connected with the improvement of the country.

Notwithstanding that a revolution of considerable magnitude has taken place in the rural economics of East Lothian, it is certain that the antient system is not yet totally given up, but maintains its ground with many people, who, in other respects, may be considered as excellent cultivators. The increased culture of green crops has, however, of late, caused more attention to be paid to the breeding and feeding of live stock. In these particulars, the disposition of East Lothian farmers is now more in unison with that of their brethren in Berwickshire and Northumberland, than formerly. Of the truth of this, we have a pregnant proof in the business which occupies our notice. Had a ram show taken place in East Lothian a dozen of years ago, it is doubtful whether half a score of farmers would have thought it worth while to give attendance. Not so at this time; for the numbers who crowded from all quarters, exemplified the interest felt by the majority of farmers in the improvement of live stock. Mr John Home, in his history of the rebellion, when describing the march of Sir John Cope's army from Dunbar towards Edinburgh, says, 'the people of the country flocked from all quarters to see an army going to fight a battle in East Lothian.' This description, in part, is not inapplicable to the Linplum sheep show. Though shows are frequent in Northumberland and Berwickshire,

nothing of the kind had hitherto taken place in East Lothian. Rams of the improved breed have several times been exhibited at Gifford fair, by the Messrs Brodies and others; but no meeting had hitherto been called for the express purpose of showing these animals.

Mr Bogue entered to the farm of Linplum about eight years ago, and immediately set to work in improving it in the most substantial and judicious manner. In his case, the advantage of possessing a large capital was strikingly manfest; for he summer-fallowed extensively, purchased dung at Haddington and other places, drove large quantities of lime-shells from the neighbouring draw-kilns, which was administered most liberally, and caused every field to be sown with grass seeds as fast as it was dressed. The farm contains 580 Scotch acres; therefore of a size well adapted for stock husbandry. The whole of it was enclosed; and, of course, an improved system was practicable at the outset. This improved system was followed out by Mr Bogue with spirit and judgment. He purchased ewes, and hired rams from Mr Culley and others; but chiefly from Mr Sitwell of Barmoor-Castle, a gentleman well known as an amateur of good live stock. In a word, the conduct of Mr Bogue furnished incontrovertible evidence that he was fast advancing upon the heels of the first rate breeders.

The New Leiceſters or improved breed of ſheep, are well known through the greateſt part of Britain. With regard to this breed, the general opinion is, that it may be fattened in a ſhorter time, and at leſs coſt of food, than any other of the numerous varieties which prevail in the iſland. The New Leiceſters were introduced into Eaſt Lothian in 1776, by Mr William Brodie, then tenant of Upper Keith, who now poſſeſſes the extenſive and valuable farm of Amisfield-Mains, near Haddington. Afterwards, many other farmers obtained this breed, or varieties of it; for, notwithſtanding they are all deſcended from the parent ſtock of Mr Bakewell, yet it muſt be underſtood that there are ſeveral varieties, or, more properly ſpeaking, different families, of the Leiceſter ſheep, concerning whoſe qualities agriculturiſts are not at one. As already ſaid, they are all deſcended from the ſtock of Mr Bakewell, though poſſeſſing the original properties of that breed in different degrees, according to propinquity, and the meaſure of attention beſtowed in ſelecting the fathers and mothers of the ſeveral families. Mr Bogue's flock has been chiefly reared from rams and ewes purchaſed from Mr Sitwell. This variety is rather of a larger ſize than thoſe bred by Mr Culley and other people; and to decide upon the merits of Mr Bogue's rams, when compared with ſome others deſcended from ewes purchaſed

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at Mr Culley's ſale in 1806, occaſioned in ſome meaſure the meeting now to be deſcribed.

The company met at Linplum, at one o'clock, Saturday, 2d July, and were favoured with a remarkable fine day for going through the buſineſs before them. In the firſt place, Mr Bogue ſhowed 13 very fine rams, chiefly ſhearlings, each having a label hanging from his neck, denoting the particular number of the animal, from which reference was made to the quantity of wool clipped. The rams were in high condition, uncommonly well managed, and ſhown with ſuch judgment as to afford the greateſt ſatisfaction to the numerous company aſſembled at the inſpection. They were ſhown, one at a time, in a long range fitted up in the farm-yard; the company ſtanding on each ſide of the range, and handling them as they paſſed. We underſtand ſome were let at the time; and have no doubt but that the whole will be bargained for ere the raming ſeaſon commences.

After the exhibition, a ſweepſtakes, of five guineas each, by Mr Bogue, Mr Brodie, Scoughall, and Mr Ker, Whitekirk, who ſhould ſhow the beſt rams, was determined in favour of Mr Brodie. Mr Ker did not produce his ram; therefore the conteſt lay betwixt the other two gentlemen. The judges, Mr Mathew Culley, Mr Scott, and Mr William Brodie, were unanimous in their deciſion, thinking Mr Brodie's rams fatteſt, and conſtitutionally diſpoſed to fatten faſter than the other. Mr James Thomſon at Bogend, in Berwickſhire, was originally fixed upon as one of the judges, but the indiſpoſition of a near relation prevented his attendance; a circumſtance which occaſioned much regret.

Here we would remark, that in all competitions of this nature, the terms or principles on which judges are to determine ought to be clearly and diſtinctly expreſſed in their appointment, ſo as error may be avoided, and impartial juſtice adminiſtered to the parties. It is well known, that breeding amateurs are divided into different ſects, each holding oppoſite opinions, and maintaining them with almoſt equal pertinacity as diſplayed, on other occaſions, by Brunonian and Cullenian practitioners in defence of their reſpective ſyſtems. In judging upon the aptitude of ſheep to fatten, breeders may be miſled by preconceived abſtract notions with reſpect to the qualifications or properties which confer that aptitude; or they may be influenced, when pronouncing judgment, by ſize of head, ſhape of neck, colour of legs, and the like; which circumſtances, though perhaps neceſſarily connected with a beautiful animal, are not abſolutely called for when determining upon its diſpoſition to fatten more cleverly, and at leſs expenſe than its neighbours. We hazard theſe general remarks, without meaning, in the ſlighteſt manner, to impugn the ſentence of the judges, who certainly acted with the utmoſt impartiality.

A bull, and ſeveral Weſt Highland cows, with a valuable parcel of feeding cattle, purchaſed by Mr Bogue from Dunrobin in Sutherlandſhire, were ſhown in an adjoining yard or courtine. As a judge of good ſtock, Mr Bogue has long been conſpicuous. His attempts, in conjunction with thoſe of Mr Sitwell, to improve the Weſt Highland breed of cattle, by ſelecting the beſt bulls and cows, and rearing their progeny on good paſtures, merit every degree of ſucceſs. The Weſt Highland breed is well known to be one of the beſt in the iſland as to quality; and if it is ſo, when in ſome meaſure ſtunted and ſtarved in early age, there is every reaſon to believe that an improvement of the greateſt conſequence may be obtained by feeding this breed from the outſet. The experiment, at all events, deſerves praiſe; and we eagerly hope it will be accompanied with more ſolid advantages.

After the ſhow, ONE HUNDRED AND EIGHT agriculturiſts were ſumptuouſly entertained by Mr Bogue in the large thraſhing-mill barn, which was moſt commodiouſly fitted up for their reception. Here we are at a loſs to ſay, whether the elegance of the entertainment, or the regularity and good order with which it was conducted, were moſt entitled to praiſe, or moſt gratifying to the gueſts. It is enough to ſtate, that the whole company were highly pleaſed with the urbanity and good manners of the worthy entertainer, who, on this occaſion, was well ſupported by ſeveral gentlemen who took an active hand in diſcharging the different offices entruſted to them.

Among the company who attended the ſhow, we obſerved Lord Dalhouſie, Lord Cathcart, Lord Maitland, the Honourable Mr Cathcart, Sir James Baird, Bart., Mr Hay of Spott, Mr Dewar of Vogrie, Mr Stewart of Alderſtone, and many other diſtinguiſhed amateurs of rural art. A great number of loyal and ſuitable toaſts were given in the courſe of the afternoon; but none pleaſed us ſo much as Lord Dalhouſie's. His Lordſhip, after a neat and appropriate ſpeech, propoſed the health of Mr Bogue, adding, 'May his uſeful and laudable example be extenſively imitated by his brethren in Eaſt Lothian.'

We underſtand that the ſhow will next year be held at Scoughall, when another ſweepſtakes betwixt Mr Bogue and Mr Brodie will be determined. We announce this with great ſatisfaction, being fully convinced that competitions of this nature muſt tend greatly to the improvement of live ſtock, and, by conſequence, to the advantage of the public intereſt. We would wiſh to ſee it followed out in other branches of huſbandry, as the emulation which naturally accompanies ſuch friendly conteſts, is well calculated to excite a ſpirit of improvement in every department of rural art. Were the beſt fallow the object of competition, then we

might well ſuppoſe that every attention would be beſtowed upon its culture; or, were the beſt wheats to be the object, we may reſt aſſured that the preparatory proceſſes in every ſtage, from ploughing the ground to ſowing the ſeed, would be executed with the utmoſt ſedulity and carefulneſs. We throw out theſe hints, truſting they may afterwards be acted upon, and prove of ſome uſe to the agricultural intereſt of the country.

Before we are done, it cannot be improper to notice, that Mr Bogue, who has ſet ſuch a good beginning to the competitions we are recommending, is nephew to Mr William Brodie at Amisfield-Mains, formerly at Upper Beith, who, as already ſaid, firſt introduced the improved breed of Leiceſter ſheep into Eaſt Lothian. When it is added, that Mr Bogue poſſeſſes the like genius and talents with regard to the management of live-ſtock as belong to his worthy friend, we are almoſt ſure that there is ſcarcely one perſon in the county of Eaſt Lothian who holds an opinion on his merits different from the one that we have now pronounced. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Covering Fruit Trees, &c.

SIR,

I SENT you a ſhort eſſay laſt year, on the ſubject of making wine from Scotch fruit. I have ſince made a good quantity, and having had a year to ripen, it proves a pleaſant and improving beverage. I have devoted half an acre to the purpoſe of raiſing black currants, and hope in time to excite the jealouſy of the Exciſe, at ſo charming a liquor eſcaping the gauge-ſtaff.

I add a receipt of ſome importance, becauſe it is a certain corrective of the worſt property of our climate, if a defect can be called a property,—I mean our cold, bleak ſpring ſeaſons. This defect alone renders the hotteſt enſuing ſummer and mildeſt autumn *fruitleſs*,—as it attacks our fruit trees at the delicate moment of their coming into bloſſom, when a ſingle froſty night often blaſts the whole hopes of the year.

Moſt of the walled gardens in Scotland have climate enough to ripen very fine fruits, peaches, apricots, cherries of all ſorts, green-gages, and moſt of the other plums; but the warmeſt of our gardens are not exempted from the havoc of ſpring froſty blights; to remedy which, a happy antidote has lately been diſcovered. The wall trees are to be covered in the ſpring with a woollen net. Its meſhes about the wideneſs of a herring net. The worſted is to be ſpun of the coarſeſt materials, and the nets to be made of *two-ply yarn*. The only troubleſome operation, is that

of cutting one of the plies of every meſh after the net is woven. This creates the greater obſtruction to the froſty particles reaching the tender bloſſoms.

A neighbour of mine made laſt ſpring an experiment which leaves no doubt of the value of the receipt. On the ſame wall, in the ſame ſoil and expoſure, he covered one of three peach trees with a net of this kind. The two uncovered have hardly any fruit; the third, that was netted, is loaded with the fineſt fruit, as if it had been in a peach-houſe, or on a wall covered with glaſs. I need not obſerve, that the ſimplicity and cheapneſs of this preſcription adds not a little to its value. I am told it begins to be uſed pretty generally; but, as I never heard of it till lately, perhaps it may be equally unknown to many of your readers. I hope ſome of them will enable you to confirm the ſolitary experiment I have reported, and that your future Numbers may eſtabliſh the value of this diſcovery. I am, Sir, yours, &c. DOMESTICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IF your youth has been ſpent amidſt rural ſcenery, and if at a ſubſequent period, when abroad, you have made an excurſion on foot in a hot climate, and felt an inclination to recline in the ſhade, you have, no doubt, experienced the uneaſineſs which ariſes from the apprehenſion of ſavage beaſts and noxious reptiles. At ſuch times, you may perhaps have viſited Great Britain, in imagination, and wandered in wild woods, or lolled upon moſſy banks, and enjoyed the proſpect of rugged rocks and romantic ruins. Theſe ſituations and ſenſations, I have often experienced; and the agreeable part of them I lately attempted to realize. Every thing ſeemed altered, and all for the better. The country had been encloſed, waſtes cultivated, and hills planted; roads had been raiſed, bridges lowered, canals excavated, and machines almoſt animated. The middling ranks of life ſeemed to poſſeſs more information and more induſtry. The lower claſſes appeared more cheerful, better lodged, better fed and better clad; and the fair ſex, whether from the practice of innoculation, or the general uſe of hats and paraſols, appeared ſtill more beautiful than at the time of my departure. I rejoiced at the progreſs which had been made, and my heart expanded at the proſpect of ſtill further improvement. In my excurſions, however, two things annoyed me exceedingly,—the want of finger poſts to direct me aright, and the conſtant denunciations in the event of going wrong; and theſe laſt, often the firſt indication that I had already got half a mile beyond the ſpot where the intimation ought to have been given. Indeed, the numberleſs threatening advertiſements which at every corner, in the vicinity

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of what are called *gentlemens'* houſes, exhibit ſteel-traps, ſpring guns, rigorous law, and certain proſecution, are more alarming to a curious traveller than all the ſnakes, centipedes, tigers and tarantulas of the torrid zone. When a great deal of taſte and judgment has been diſplayed, and a great deal of money expended in building, fertilizing and adorning, it were natural to ſuppoſe that every means would be uſed to facilitate approach, and by the proper uſe of ha ha's, exhibit to the view of the paſſing ſpectator, the expenſe which had been incurred, and the improvement which had been made. I do therefore ſuppoſe, that the greater part of thoſe terrifying tickets are ſtuck up without the immediate ſanction, or at leaſt the due conſideration of the proprietors; for I cannot believe that the following and numerous other extracts which might readily be made, are the compoſition of any perſon who is capable of either deſigning or executing any thing that would be either curious or uſeful.

'If any perſon is ſeen upon the dikes or trees, they will be ſhot. 'Informers will be rewarded.' This is ſuch an outrage againſt law, juſtice, mercy, civility, grammar, and good ſenſe, that one might be induced to believe, that the reward is offered by ſome magiſtrate ſo as information may be received when murder is committed. 'No perſon allowed to paſs through theſe woods, ex-'cept in the caſe of deſerters, or perſons flying from juſtice' This again carries licentious indulgence to ſuch an extreme, that I ſhould think it incumbent upon all civil and military officers to bring the proprietor to a proper ſenſe of the extravagance of his intimation.

Surely ſuch as commit depredations would be liable to apprehenſion and puniſhment, without all this expenditure of poſts, plank and paint; and I much doubt, if ſuch illiberal excluſion has not even ſome tendency to ſtir up miſchief in the minds of ſome who would otherwiſe paſs peaceably along. For my own part, I never ſee any of thoſe *terrorems*, but they excite a kind of mental execration, and inſpire me with a ſtrong deſire to burn the board.

The ſuperintendance of ſuch matters is certainly in your department; and I think you may be able to convince many that they would derive conſiderable ſatisfaction, and all, that they would run very little riſk, in expoſing their parks, and even their palaces, to the eyes of a STRANGER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on ſome Prejudices againſt Landholders, by Dr Dewar.

SIR, *Edinburgh*, 1808.

ONE of the happieſt effects of the diffuſion of literature in the preſent age, is, that many unfounded jealouſies which formerly prevailed,

prevailed, are deſtroyed by the circulation of more accurate views of the mutual relations which the members of ſociety bear to one another. In no department is this change more agreeably conſpicuous, than in the relations of landlord and tenant. During the tranſition of ſociety from the feudal to the commercial ſyſtem, it was to be expected that the remains of old habits ſhould influence both parties; that the landholder ſhould retain ſome attachment to the feudal power with which his anceſtors had been veſted; and that the tenant, not yet raiſed to independence, ſhould claim from his landlord a degree of protection beyond that which flows from the ſimple obligations of honeſty and good neighbourhood. Accordingly, for a certain interval, farmers complained, without any foundation, of harſh uſage on the part of their landlords; and theſe, on the other hand, indulged in contemptuous reproaches againſt their tenants, for the unreaſonableneſs of their expectations. Such miſtakes are now happily diappearing; and the habits of men in each department become accommodated to an improved ſtate of ſociety. The prejudices which ſtill adhere to their minds are trifling, compared to thoſe which are forgotten. Every perſon, however, who wiſhes well to ſociety, ſhould exert himſelf for the extinction of thoſe which remain. The efforts which are made in your uſeful Miſcellany, as well as in ſeveral other modern publications, to impreſs the landed intereſt with a due ſenſe of honour and liberality in their dealings with the farmer, are highly deſerving of praiſe. In order, however, that theſe efforts ſhould prove effectual, it is of great importance to repreſs ſuch complaints as are ill-founded, and to draw a clear line of diſtinction betwixt the manly remonſtrances of juſtice, and the croakings of diſcontent. If it can be ſhown that theſe latter ever aſſume the maſk of the former, and if it is found that, for want of accurate views on the ſubject, groundleſs complaints are in any inſtance countenanced by men who, in other reſpects, exhibit much liberality of ſentiment, it will certainly be of uſe to endeavour to convey ſuch views as are more correct in themſelves, and tend to bring all parties nearer to a mutual agreement.

In ſome inſtances in which landholders and farmers are ſufficiently diſpoſed to harmonize in their leading tranſactions, a ſort of neutral men, in the literary world, endeavour to ſet them at variance, by eſpouſing what they conſider as the intereſt of the farmer. My preſent deſign is to take notice of two inſtances, in which miſtaken doctrines of this tendency have made their appearance.

I ſhall begin with the complaint which is made againſt the injuſtice of landholders, in exacting ſo high intereſt as they ſometimes

times do, for the money which they advance in improvements. In cases in which the farmer wishes to have certain improvements executed at the expense of the landlord, without which he finds that the produce of his farm must continue far below the point to which it can in this manner be raised, we are asked, what right the landlord has to take advantage of any such necessity, by demanding a greater addition to his rent than the legal interest of his money? On what principle can he claim 10 *per cent.*, as is frequently done? A few remarks will make the principle perfectly clear to every person capable of attending to the subject. As long as we adhere to the laws of property, which are recognized in every well-ordered state, a man possessing two kinds of property, such as land and money, is perfectly justified in combining the advantages of these in such a manner as to produce the greatest possible revenue to himself, provided he do not encroach on the income and rights of his neighbour. A landholder is proprietor, not merely of his land in its present state, but of his land as vested with the quality of improveableness; and this quality he is justified in turning to his own account. No person has ever denied that, when a farm is in the proprietor's hands, he has a right to expend money on it till he raises its value as high as he can, and then to let it at any rent which a prudent farmer thinks proper to give. The difference betwixt this case, and that in which money is advanced in the course of the lease, is not essential. The advance of rent should be proportioned as nearly as possible, not to the sum expended, but to the resulting advantage of the improvement made. If the tenant, at the beginning of his lease, gives no more than an adequate rent for a farm in its present state, and if it is foreseen that any particular sum laid out upon it will bring an additional produce of 30 *per cent.*, the landlord has as good a right to this 30 as in other cases he might have to 5. Whatever be the conditions of advance in rent, the farmer is safe, if he has it in his power to refuse all improvements which will not reimburse him for the additional rent. It generally happens that, in bargains of this sort, the farmer is a considerable gainer by receiving an addition to his produce exceeding the amount of any per centage that he pays. All that he receives above this amount is clear profit; and, if the improvements had been made previous to the lease, would, in the course of things, have formed part of the revenue of the landlord. A square field, with a public road along two of its sides, may not be worth more than 20*l.* *per annum* in an unenclosed state, but may be worth 120*l.* when well enclosed; and yet the expense of enclosing may not exceed 200*l.* The farmer who is in possession is treated with sufficient liberality, if the proprietor offers to enclose it, on condition of receiving 50*l.* of additional rent. This

may

may be called an extreme case, and perhaps a one purely hypothetical; but it is certain that the advantages of enclosing bear various proportions to the sums expended. In rich fields, the expense is small, and the advantages very great. Bleak hills, on the contrary, may be barely able to afford the expense of enclosing. The advantages derived from it may hardly amount to *5 per cent.* of the expense. If they fall short of this return, the person who lays out the money sacrifices his own interest to that of the country. Such sacrifices ought certainly to be voluntary, when they are made at all; and it would be highly unjust for a landlord to exact them from his tenant. Even an addition of *5 per cent.*, in this case, would be extortion. This illustration may show, that it is idle to fix any limits to the proportional rise of rent which ought to be exacted for enclosing. The landlord acts with sufficient liberality, when he takes upon himself all the chances of failure, and insists on such terms only as must turn out advantageous to his tenant. If all the conditions are fixed in a lease, whatever room may be left to find fault with imprudent arrangements, it is absurd to complain of unfairness. If no bargain has been originally made on the subject, a wise landlord would not neglect improving his land, with the prospect of a greater rise of rent at the conclusion of the lease, though he should receive, in the mean time, only *5 per cent.* for his money. If he is unwilling to do this, the tenant may act most prudently, by offering a higher proportional rise, to induce him to put his farm in a better condition. Perhaps the most liberal plan would be, for the two parties to make an equal division of the advantages expected from such improvements. But remonstrances about unfairness of conduct, on these occasions, are generally idle.

Hoping that this point is sufficiently established, I shall make some observations on another practice, which is made the subject of complaint, equally unfounded,—that of advertising for private offers in letting land. No system is so perfect as to preclude the possibility of objection. This mode of letting land has been considered as an advantage taken of the anxiety which a farmer feels to avoid disappointment, and, consequently, a temptation laid in his way to induce him to offer a higher rent than he is able to pay. It ought to be considered, however, that the most skilful farmer is generally able to pay the highest rent, and is also most deserving of encouragement. It may occasionally happen, that a man of inferior qualifications will give a higher offer, from a spirit of inconsiderate adventure; but a proprietor, industrious in his inquiries, and possessed of common sagacity in judging of character, will then prefer the man who is most likely to succeed.

Because

Because a landlord may in some respects be compared to a merchant, it is thought equally reasonable to expect that he should fix a rent on his land, as that the merchant should ask a definite price for his goods. The business of the merchant, however, is, in its own nature, very short and easy. The state of the general demand is known by the prices which goods of each description bring; and there is but little trouble required in distinguishing the gradations of quality in the articles which he offers for sale. But the circumstances which regulate the value of land are local, minute, and hardly capable of being appretiated by any person, except the practical farmer. It is therefore most profitable for all parties, and for the country at large, to bring this class of men into free competition. The great demand for farms is a consequence of the general success of practical farmers; and a free competition must generally open to industry and enterprize the readiest prospects of success. In the hands of a prudent landlord, the freedom of the competition is but little impaired by the privacy of the offers; while the disadvantage of obliging himself to accept of higher offers from improper persons is more fully avoided, than by any form of public auction. Nothing can be more futile than to say, that the power of selection which the landlord reserves to himself is then too great. Every man has a fair claim to all the power which his property implies; and it is unreasonable to find any fault with him, except in the ultimate use which he makes of this power in individual instances. A merchant, in selling goods, may always make a choice among his customers; but, if he is certain of recovering his money, he has no motive for preferring one customer to another; and therefore he deals with the first that offers; because, when the money is paid, their mutual intercourse in that instance is at an end. But a landholder, who is to be connected, by a course of mutual transactions, with a tenant for nineteen years, would act a very foolish part, if he did not use the greatest circumspection in every circumstance of his original agreement.

Some of your readers, particularly among landed gentlemen, will be apt to regard the preceding observations as truisms, hardly deserving so formal an illustration; but, as long as prejudices exist among any description of men whatever, such explanations as may serve to correct them, cannot be justly considered as superfluous. I am, Sir, your obedient and humble servant,

—— HENRY DEWAR.

NOTE.

IT is a doubtful point, whether the statute against usury is not infringed when more than five *per cent.* of interest is taken upon money expended in improvements; especially if the tenant is bound to leave these improvements, say houses and fences, in good condition at the expiry of the lease.

Abstract

Abſtract of the Conſtitutional Rules and Regulations of the Farming Society at Salton, &c.

Conſtitutional Rules.

1*ſt*, THAT the meeting form themſelves into a CLUB, to be called THE SALTON FARMING SOCIETY.

2*d*, That the principal object of the Club is to promote the intereſts of agriculture, by their countenance, communications, and the diſtribution of premiums to thoſe who are engaged in rural affairs.

3*d*, That for the ſake of ſociety and good neighbourhood, the members ſhall dine together at each meeting.

4*th*, That the members ſhall not conſiſt of agriculturiſts merely, but of thoſe alſo of other profeſſions, who are lovers of agriculture.

5*th*, That when the intended number of members is completed, their meetings ſhall be quarterly.

Regulations for accompliſhing the Objects of the Society.

Premiums.

1*ſt*, To encourage order and cleanlineſs in the cottage and cot-yard.
Thirty Shillings, to the competitor who is moſt approved.
A *Guinea* to the ſecond.
Half-a-Guinea to the third.

2*d*, For the beſt eſſay on the moſt ſucceſsful mode of deſtroying the moſt hurtful weeds,—*a Silver Medal.*

3*d*, To the tenant who ſhall be found to have the cleaneſt farm,—*a Silver Medal.*

Communications and Diſcuſſions.

1*ſt*, At every meeting of the Society, the members ſhall be requeſted to communicate any particular practice in huſbandry that by experience they have found to be moſt ſucceſsful.

2*d*, That at the cloſe of every meeting, the preſes ſhall announce, for the diſcuſſion of next meeting, any particular ſubject connected with rural affairs.

Moving Committees.

That when the Society becomes more numerous, a Council ſhall be named, and at each meeting a Preſes and a Croupier ſhall be appointed.

Committee of Inſpection.

That a committe of report and inſpection be appointed, to prepare buſineſs for the quarterly meetings, and to report upon the ſtate of agriculture within their circle.

Additional Regulations, approved by the Quarterly Meeting held in September 1807.

1*ſt*, The Society are to meet quarterly, and in the months of *January*, *April*, *July*, and *October*.

2*d*,

2*d*, On the firſt meeting of every year, each member ſhall pay into the treaſurer's hands, *Ten Shillings*, which he is to appropriate to the payment of dinners during the year.

3*d*, Every motion which is duly ſeconded and debated, ſhall be decided by a majority of votes; and if, on collecting the votes, they ſhall be found to be equal on each ſide of the queſtion, the Preſident, independently of his vote as a member, ſhall have the caſting vote.

4*th*, Every motion not ſeconded ſhall fall to the ground.

5*th*, Any gentleman, deſirous of becoming a member, muſt be propoſed a candidate by a member preſent: If the motion be ſeconded, the ſecretary ſhall minute the ſame, inſerting, "The candidate to be ballotted for next regular meeting."

6*th*, Not fewer than nine members ſhall be deemed ſufficient to ballot for a new member; and of theſe, one third ſhall have the power to reject.

7*th*, When the event of the ballot is favourable, the perſon who propoſed the new member ſhall depoſit in the treaſurer's hands *two ſhillings and ſixpence* for each remaining dinner during the year.

8*th*, Any member of the Society may bring with him a friend, as a viſiting member; it being underſtood that the member pays for his friend.

9*th*, Dinner for twenty members, at every meeting, ſhall be ordered and paid for; and if more than twenty dine, the ſurplus number ſhall be paid for, at the rate already ſtated.

10*th*, Dinner ſhall be on the table preciſely at four o'clock, and the bill ſhall be called at ſeven.

11*th*, The ſecretary ſhall inſert theſe regulations into the minute-book, and ſhall continue to minute the proceedings of every meeting, together with a liſt of the members who were preſent.

12*th*, The minutes of the former meeting ſhall continue to be read previouſly to commencing buſineſs.

NOTE.

WISHING to give all publicity to the excellent rules and regulations of the Salton Farming Society, we have inſerted them from a copy obligingly tranſmitted to us. It is not our intention to offer remarks, but we are in duty bound to congratulate the Society upon the marked attention ſhown to the dinner buſineſs;—a buſineſs confeſſedly of great importance, therefore noticed in no fewer than in five of the additional regulations. The Society, by attending ſo minutely to this important branch of their proceedings, are certainly entitled to much praiſe. Other ſocieties debate firſt, and dine afterwards; which is as prepoſterous as going the yoking, and corning the horſe at the end of it. The Salton Society

act

act more wiſely. Judging that to debate with an empty ſtomach is a very fooliſh meaſure, they prudently begin where other ſocieties finiſh. Here the Society are in the right; for all agriculturiſts, however much they may differ about rotations of crops, and the like, are at one with regard to the utility of eating and drinking. The Society have therefore, with much judgment, given theſe matters a place in their conſtitutional code; conſidering the dining-table, perhaps, as a rallying poſt around which a full meeting may conſtantly be expected; and its dainties as highly calculated to invigorate their minds, when engaged in the great work of promoting agricultural improvement. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Potatoes.

SIR,

I obſerve in the late communications to the Board of Agriculture, that the Reverend Edmund Cartwright ſays, in a paper on the culture of potatoes, that every portion of a potatoe, whether it has an eye or not, will grow into a plant. This is a miſtake.

I have found, on trial, that the old received doctrine holds, that no portion of a potatoe that has not an eye will grow into a plant.

Amidſt the many ſpeculations on the cauſe of the curl, I beg leave to remark, that I have taken notice of late, that potatoes planted either too near the ſurface, or too deep in the ground, ſend up curled plants; and any thing in general that weakens the growth of the plant, as a very ſmall cutting, or when the cutting is deſtroyed by inſects in the ground, has the ſame effect.

That there are other cauſes of the curl yet unexplained, there is no reaſon to doubt; as we find univerſally, that potatoes grow curled if the ſeed is not changed, at leaſt in the low parts of the country; while I have obſerved, that if the ſeed is brought from a late climate, the potatoe plants produced from it are never curled.

A GARDENER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Query concerning Soap-Aſhes.

SIR,

PRAY, can any of your correſpondents give information reſpecting the quality of ſoapmakers' waſte aſhes for manure? In ſome places the farmers give a very high price for them, and are anxious to get them. I am informed there are immenſe quantities to be had in London, Briſtol, and Liverpool, for a very low price.

If you can invite diſcuſſion on this manure, you would add very much to the many important ſervices ariſing from the great circulation of your Journal. A.

BRANCH

BRANCH II.

AGRICULTURAL INTELLIGENCE.

SINCE the commencement of 1808, the weather has run into extremes; and existing circumstances warrant a presumption, that the year will conclude in the same uncommon way hitherto manifested in its progress. The first four months of the year were singularly stormy and cold, displaying all the horrors of winter even till the last day of April. The month of May was ushered in with the most promising appearances; and vegetation, from that time, proceeded with a rapidity rarely witnessed in this country. The last two weeks of June and the first three weeks of July, furnished warmer weather than remembered by the oldest man living; and this unprecedented warmness was followed by dreadful thunder storms in every quarter of the island, accompanied with heavy rains, more resembling those of the torrid zone, than what are usually experienced in the temperate climate of Great Britain. The loss and damage sustained by such heavy rains, can only be correctly ascertained at an after period. It is enough, in this place, to say, that, in consequence of them, the wheats have been mildewed considerably; a great part of the hay crop absolutely rotted; whilst field labour hath been thrown out of shape, and placed in a condition not to be remedied at this advanced period of the season.

Under these circumstances, it need hardly be stated, that the summer-fallow land is not much improved by the labour bestowed upon it during the dry weather. In fact, the clay soils of many districts were so saturated with moisture, that there is little probability any of the after processes will be accomplished in a satisfactory manner. The turnip fields are also, in numerous instances, very imperfectly cleaned; it being hardly possible, from the 24th July to the 10th August, to use either the horse or hand-hoe with the slightest advantage. Such fields as were cleaned before the rainy weather commenced, are doing well; but the breadth of land then finished was not great; and any thing done during the above period was chiefly by the hand. Upon wet soils, the young plants assumed a yellow aspect; after which, it rately happens that the crop is worth the expense of cultivation.

The corn markets have been more stationary during the quarter than might have been expected. Wheat, in particular, has not varied greatly in price, the fall one week being nearly made up by a rise in the succeeding one. Barley and oats have been scarce articles through the summer; but the appearance of those grains upon the ground being generally good, has, of late, caused a considerable depression of their market value. The same remark may be applied

to peas and beans. As to wheat, a very different opinion must be pronounced. The crop, at the best, was not above an average; in many districts, much below it. The mildew, which in a greater or lesser degree has seized this grain, must, at all events, contribute to keep up the present market rates. Indeed wheat, for many months past, has in reality been the cheapest grain; and a fall of one third upon the other varieties of grain, will only serve to bring matters to their ordinary standard.

Cattle and sheep have experienced a dull sale for some time past; and, from the quantity of stock in hand, there is reason to assert that the scale of prices will not be soon advanced. Perhaps the scale was too high for several years past to be maintained. Be that as it may, lean stock seldom met with duller sales than in the course of this year, which is a discouraging circumstance to the breeder; and it may be added, that the feeders are not in a much better situation. Though this has not been a bad grass season, when taken in a general view, yet, when particulars are descended to, it cannot be considered as favourable either to the feeding of cattle or sheep. Great numbers of both were in a low condition at its commencement. The after warm weather prevented the usual improvement even upon the best soils; and the succeeding rains softened the grass, and carried off its nutritive powers. Whatever truth may be in these observations, one thing is certain, viz. that cattle and sheep have made less progress this year than usual, even when fed upon the best pastures.

Another thing very much against the interest of one class of stock farmers, is the depression upon the wool market. Wool this year, unless of a good quality, cannot find a market; and will not be purchased, even when of the best quality, unless at a reduced price. This depression is occasioned by a large stock in hand, and a partial stagnation of foreign trade, whereby the demand for woollen goods is considerably lessened. It is to be lamented, that many people will, in consequence, suffer severely. Indeed, it is to be dreaded that few sheep farmers, who have lately entered into leases, will be able to fulfil the engagements which they then came under. Indulgence, if not abatement, from landlords, seems to be imperiously called for, otherwise a most respectable set of men stand a chance of being ruined and made miserable.

The rent of land of every kind still keeps up; and it may be supposed the *mania* is so violent, that it can only be cured by a few adverse seasons. Perhaps the present one may be of some use in curing the disorder; at least, it is certain that the situation of the farmer was seldom less enviable than at the present moment. Burdened with heavy rents, taxed to the teeth, both directly and indirectly, and carrying on every branch of his operations at an increased expense, if the commodities which he raises fall in value, he himself must fall also. On these accounts, it may be maintained, that proprietors of land, who employ every mean to rack up rent,—who fly from one person to another

other to get a better *bode*,—who whisper, if you do not offer such a sum, another person will be preferred,—who, in fact, adopt methods to raise rent, which, if practised by the farmer when selling his corn or cattle, would be attended with indelible disgrace;—on these accounts, it may be maintained, that proprietors, who act in the way described, neither consult their own interest, nor, far less, that of the public. 'A penny more will buy the whistle,' is a common saying with some proprietors; but it may be doubted, whether such view the subject in a proper light. A bankrupt tenant or two, with a farm or farms thrown up in a deteriorated condition, would settle this point more effectually than an hundred thousand arguments.

The address of the worthy and patriotic President, at the last sitting of the Board of Agriculture (June 7th), shows, in stronger terms than can here be urged, the important benefits which may be derived from that national institution. The Board, with much judgement, have resolved to publish surveys of every county of the kingdom, being satisfied that there cannot be a better method of disseminating agricultural information. Here the Board are in the right; for the original surveys, though many of them could only be considered as rude and imperfect drafts, were the first means of turning the public mind to agricultural disquisition. Among others who have recently undertaken to assist in the great work of surveying this northern part of the island, may be noticed Sir GEORGE STEWART MACKENZIE, Bart. who is appointed for the counties of Ross and Cromarty, and Mr JOHN SHIRREFF for Orkney and Shetland. From the reports of these gentlemen, much valuable and original information may be expected. Both are gifted by nature with strong minds, and both are capable of communicating to the public the results of their inquiries in a perspicuous manner. Really and truly, very little is known of these districts, even by the Lowlanders of Scotland; and it is matter of surprise, that that respectable body, the *Highland Society of Scotland*, have not, long before this time, endeavoured to satisfy the public with regard to the actual state of the country more particularly under their notice, instead of offering premiums for statistical accounts of other districts, which undoubtedly are without the line originally marked as the sphere of their improvements.

It deserves to be noticed, that a worthy and respectable proprietor in Morayshire, has lately made an improvement of great consequence, which will not only be advantageous to himself, but eminently beneficial to others whose grounds are similarly circumstanced. Perhaps few readers of the Magazine are aware, that, in the year 1697, some of the best lands in Morayshire were so covered with blown sand as to be rendered in a manner useless, either for tillage or the growth of grasses. In that state they remained till lately, when the present proprietor, by trenching the ground at the expense of 10*l.* or 12*l.* per acre, brought up the old soil to the surface, thereby accomplishing an improvement of the greatest mag-

nitude. This year, seventeen acres of the trenched ground is under wheat, and the crop is of that description as may well be supposed capable of defraying the whole expense incurred during the trenching process. Would every proprietor of land in Britain be as attentive to the improvement of his estate, as the worthy and respectable gentleman alluded to, it is difficult to say how far the island might be benefited. But, alas! alas!! the improvement of most proprietors is solely confined to an increase of their rent-rolls. This, for some years past, has been an easy business, neither requiring any outlay of capital, nor even the slightest degree of knowledge; though it may be suspected, that this road to improvement is now nearly barred up. Other kinds of improvement, are, however, of a more durable nature, and those who practise them are sure of reaping a concomitant advantage, proportional to the wisdom and efficacy of the measures employed in carrying them into execution.

Upon the whole, it may be stated, that this year is not like to be one which will be favourable to the farming interest of the country. Independent of the adverse weather already noticed, which has been of incalculable disadvantage to those concerned in agriculture, the low price which barley must necessarily obtain in the market, is an evil which will be seriously felt in many corn districts. The low price of live stock, and the stagnation of the wool trade, will also be sensibly felt in all the breeding districts. In short, it does not admit of a doubt, that a farm in these districts, taken in 1805 at a fair rent, is not now able to pay more than three fourths of what was then promised; and if the information be correct on which this statement is founded, the evils pointed out are already decisively experienced in many parts of Scotland. As for England, the rent of land has not advanced with so much rapidity; therefore, farmers in the breeding districts there are not exposed to the like evils which their Scottish brethren have too much cause to dread, under the circumstances which presently affect them.——*Aug. 17th.*

SCOTLAND.

Banffshire Quarterly Report.

Since the date of last report, the weather has proved highly favourable for executing every branch of field work the farmer could possibly be engaged in. The preparation for turnips went on with great facility; and many farmers, from the great loss sustained by the late sowing of this root for several years back, availing themselves of so favourable an opportunity, got the seed work mostly concluded by the 15th and 20th of June. As usual, the first sown have a great superiority, and promise to be excellent, provided they do not run to seed in the autumn; a circumstance rarely occurring in this district.

The different crops of grain made very rapid progress through the whole of May, and to the last week of June, the seed having done

done its part beyond all expectation. But intense drought setting in at that time, gave the crop, upon all inferior soils, a severe check, especially upon those under bad cultivation. The last eight days of the drought were unusually warm, and would have soon proved too hard for most soils and situations, had not relief fortunately been presented. The aspect, at that time, was rather an alarming one to the farmer, as the supply of provision appeared very scanty, and, taking all circumstances into account, a continuance of it would have been truly lamentable. On the 17th instant, a thunder storm, with vivid flashes of lightning, prevailed for two or three hours, accompanied by a heavy fall of rain. This, with the refreshing showers and warmth experienced since that time, has produced a wonderful change; and the crop may now be reported, according to present appearances, fully equal to an average, both with regard to bulk and produce, and every prospect of harvest commencing several weeks sooner than last year. If there is any superiority of crops, it seems to be with the barley, which was for the most part sown early, and, on that account, has all along resisted the drought. Hay will be rather a scarce article, from many fields being depastured in the spring. On that account, the cutting has been delayed till a later period than usual; and if the rains continue, it must be but indifferently cured. The pastures have never, as yet, been abundant. In the first instance, owing to a heavy stock being early laid on, and the weather afterwards so dry, vegetation made little progress. Cattle, in good condition, are going off at moderate prices, but scarcely equal to those of last year; whilst beasts of the inferior sort are little sought after; and it is to be apprehended, that too many of this description will remain on hand another year, it being now evident that an overstock is still in the country, notwithstanding of all the slaughter and death which happened last spring.

Grain made a considerable advance in price in the early part of summer. Barley was sold as high as 45s.; oats from 35s. to 40s. *per* boll, of 128 Scots pints; and oatmeal at 35s. and 36s. *per* boll of 8 stone Dutch. Prices have, however, declined considerably for some weeks past; and a sufficient supply will be obtained till the arrival of a new crop. Beef and mutton sell in the market at 6d. and 7d. *per* lib. Dutch. At our market for engaging servants for the half year, the wages for principal ploughmen were only reduced from 8*l.* Sterling to 7*l.* 10s., and seven guineas; but inferior ones were hired 30s. and 40s. lower than the preceding half year. Labourers *per* day 10d. and 1s. with victuals.——*26th July.*

West Stirlingshire Quarterly Report.

THE weather, during the quarter, has been uncommonly favourable to the progress of vegetation, and to the operations of husbandry. The rapid growth, which commenced with the genial warmth and plentiful rains during the month of May, was interrupted in some degree by frequent frosts in the beginning of June, and ultimately checked by a tract of sultry weather which succeed-

ed, the duration and intensity of which have seldom been equalled in this climate. About the middle of July rains returned, attended with violent thunder storms, and still continue to refresh the parched ground, and to support a vigorous vegetation.

To no crop has the drought been so injurious as to turnips. Few farmers had finished the seed process before the hot weather commenced; and, from the want of rain for a whole month, the moisture of the earth produced only a languid braird, which often died totally away. Much seed lay in the ground, and is now springing up; but the season being so far advanced, no adequate crop can be expected. The culture of turnips is still very limited, and little understood in this district. Our farmers have not yet ascertained the proper mode of conducting the seed process. Some make a rut in the drill, and drop the seed through their fingers. Others take a walking staff, and hold a little seed in the palm of the same hand; they, at every six or eight inches of interval, thrust the staff into the ground, and, by moving it smartly round, allow some particles to escape from under the palm, which slide down the staff into the pit which it had prepared. The advantages of this method are said to be, that one man may sow an acre of turnips in a day; that it supersedes the double operation of first preparing a rut, and then delivering the seed; and that it afterwards facilitates the business of thinning the turnips, as they spring up from every pit in small tufts, the operator having only to separate the *master plant*, and cut down the rest with one stroke. Some people, who raise turnips to the extent of about an acre each, begin to suspect the value of these advantages, and seem to think that every parish should raise a joint stock, and purchase a drill-barrow for the common good! This will be one, perhaps the first, step to improvement.

The hay harvest was finished about the beginning of July; the crop abundant, and generally secured without a shower. From the bulkiness of the commodity, and the consequent expense of carriage, the prices of hay depend upon local circumstances. Apprehensions being entertained, from the excessive drought, that straw would be deficient, hay was early bought partially at 8d. *per* stone; but since the abundant rains have dissipated this ground of alarm, the price has fallen to 6d. or 6½d.

Corn crops are still considerably later than usual. Wheat, beans, and barley, are very luxuriant. Oats, from the combined influence of bad seed, an unfavourable spring, and the ravages of the grub, rarely equal an average crop. Potatoes universally promise an early and an abundant supply to the labouring classes.

Pasturage still continues excellent. Sheep have scarcely recovered from the injuries of winter and spring. Ewes have been deficient in milk, and have delivered their lambs in inferior order to the market. Though the carcase be 10 *per cent.* lighter, and the skins one third cheaper than last year, lambs still retain the same price, and are sold at 10s. or 10s. 6d. a-head, two being given to the score, owing

owing to the lambs from the Highlands being in such bad condition, as not to enter into competition with those of Stirlingshire. Wool of all kinds is a drug. Cheviot wool, instead of selling as formerly at 30s. *per* stone, and tarry wool of the black-faced breed at 9s., are with great difficulty sold in small quantities at two thirds of their respective prices.——1*st August.*

Letter from Invernesshire, 2d August.

'THE first of summer was uncommonly favourable to vegetation, being sooner warm than usual, which caused every thing to grow with a degree of speed much greater than commonly happens in this part of the island. After some genial showers, we had a run of dry weather from 10th June to 17th July, which caused vegetation to decline, and impeded considerably the progress both of corn and grass. Some partial showers fell after the 17th; but, on the 21st, severe rains commenced, which still continue, and have caused incalculable damage in numerous instances. The hay crop, which was all cut, is, in particular, much damaged, very little of it being stacked, and the greatest part either in the rick or broad upon the ground. I am happy, however, to say, that the grain crops promise well, especially upon good soils, though, it must be stated, that many of the light shallow lands carry crops of a different description. Wheat, in general, promises to be bulky. Barley is likewise good; but oats are the most indifferent crop, though still they may be regarded as equal to an average of years. Potatoes have an excellent appearance; a circumstance of great importance to the labouring classes. Should the weather set in favourable, harvest will begin in two weeks; and really and truly there is much need for it, the country being exhausted of grain. For black cattle in a lean state, the demand this season has not been great, though any thing that is fat sells very well.'

Letter from a Gentleman on a Tour, dated Kelso, August 18.

'I TAKE the liberty to trouble you with the following lines, relative to my journey since leaving you, and to return my best thanks for the letters, which were of much use, those to whom they were addressed having shown me much civility.

'After leaving Dunbar, I went to Dunglas, where I staid two days; thence to Ayton, Berwick, Swinton, Kelso, Greenlaw, Dunse, and Coldstream; staying in each neighbourhood a few days with those I was recommended to, or in any place where most convenient for seeing agricultural operations. From Coldstream I went to Mr Geo. Culley at Eastfield, Mr Jobson, Turvelaws, near Wooler, and to several other parts in Northumberland; then to Annan, Dumfries, Kirkcudbright, Moffat, Langholm, Hawick, Jedburgh and Kelso; in which place and neighbourhood I will remain a few weeks, and then return through Berwick to Lothian.

'I was at Charlesfield about a fortnight ago, and received much attention from Mr Thomson. His crops are good, particularly the oats; and he has greatly improved his farm by drainage, and is still

doing so; by which means, in the course of a few years, he will make it an excellent one. He has also cultivated a good proportion of his mossy grounds, which carry excellent crops.

'The crops in Northumberland, Dumfries-shire, &c. are generally good; particularly on the banks of the Tweed, and in the neighbourhood of Kelso. However, the wheat is not so good as was expected; and, on examinination, is generally found defective.

'The turnips, on the whole, are doing well, though in some parts they have failed. The weather, for some time past, has been rainy, and still continues so; of course the hay is much injured, and little of it got into the stackyard.'

Dumfries-shire Quarterly Report.

THE crops in this district appear rich and luxuriant in an uncommon degree. For this very pleasing prospect, we are chiefly indebted to the fine warm weather which has prevailed through the whole of the summer, though the judicious management, now so generally practised, has also no doubt contributed not a little. Wheat, notwithstanding the badness of the last seed time, is a particularly heavy crop; but some damage appears to be done to it, where most luxuriant, by the late thunder showers. Barley and oats, our principal crops, and by which many of our corn farmers pay their rents, are excellent, and have every appearance of being cut very soon. From the present prospect, the greater part of the harvest should be made within the month of August.

The clover and ryegrass hay is safely put up in summer ricks, and so many have seldom been observed on the ground. Turnips have now a good appearance, though we were alarmed greatly for them at first, when newly come up, on account of the dry weather in the end of June and beginning of July, together with the fly setting on them at that time. Potatoes universally look well, and are very forward. In early situations some are already beginning to take them up. They will be a very seasonable relief for the common people, who at present are paying so extremely high for oatmeal.

The black cattle and sheep markets, especially the latter, have been very dull, though the cattle one is now a little quickened. Lambs are proportionally at a better price than what was obtained for rough sheep in the beginning of the season. This is probably owing to a failure in the usual numbers, especially of the Cheviot and other white-faced breeds.

The wool-staplers of Yorkshire, who attend the markets in this county, would bid no price about three weeks ago; but they have since purchased almost the whole year's produce. Cheviot sheep wool brought from 18s. to 24s.; short sheep wool, 5s. and 6s. the stone. But these prices, it is feared, are not adequate to the rents of farms taken when wool was at a higher rate.

Wheat, for the last month, has sold from 10s. to 11s.; Oats, from 4s. to 5s. the Winchester bushel. Oatmeal was for some months at

4s. 6d. the stone, but is now down at 4s. Beef and mutton, which sold till the beginning of July from 6d. to 8d., is now at 5d. and 6d. the lib.——*Aug.* 4.

Tweeddale Quarterly Report.

THE weather, since last report, whether damp or dry, has continued uniformly warm, and almost without a single breath of wind; consequently vegetation came on more rapidly than usually experienced in North Britain. The last week of June, and two first weeks of July, did not furnish a single drop of rain; and the heat being uncommonly great, all the early oats, on gravelly and light soils, suffered considerably, and, being in the ear before the late rain set in, derived less advantage from that supply than those on high land and of the late kinds, which have been much improved thereby. Sown grass suffered little by the drought, being near perfection before it set in; but as the clover was much more abundant (especially on dry deep soils) than is usually the case, the cutting was kept back a week longer than usual. For that reason the cutting was not finished when the weather broke, which will be a great loss to many people. The oat crops, in the upper districts, appear to be abundant, as they received little check from the short, but severe drought, while they obtained most ample benefit from the after rains. Barley, in general, appears to be rather above an average, though it may be doubted that it will not obtain a good market. Some people, however, of political foresight (when they saw the bill to prohibit distillation from grain brought into Parliament), proceeded with caution, as they alleged that colonial produce was seldom put in the balance with home produce, but the latter kicked the beam. Indeed, it would appear, that the gentlemen concerned in the distillery trade entertained similar ideas, as the demand on the grain markets rose every day until the prohibition commenced, which, being a month longer than usual, took off more of the disposable grain than was perhaps sufficient for two months food; consequently, if the intention of the framers of the bill was to prevent bread corn from being made into whisky, in order that the labouring part of the community might be supplied with bread, the measure in view had the very contrary effect. Whether it will enable the West India planters to pay their taxes, or not, is a dubious circumstance, though it is certain that Scots farmers will not be enabled to pay theirs. On account of the scarcity and badness of peas at seed time, and the total destruction of that crop last year by the louse, very few were sown this season; but where sown, they promise to be good, having never been broke down by blustering weather, and are poded from top to bottom. Upon the whole, the grain and hay crops (if the weather is propitious) will be above an average. Barley harvest may commence, if the weather is dry, in ten days, and will be general in little more than a fortnight.

Potatoes are a good crop, and forward. Turnips, especially those early sown, are in a thriving state; and, if the wetness does not hurt them,

them, will, in general, turn out well. There is little rough grain on hand; but there may be as much meal as will equal the demand until the new crop is marketed. Sheep and lamb markets are not so good as last year; yet, on account of their inferior quality, the prices may in reality be higher. Stock was severely stunted in the first stage, and never made the progress that the goodness of the season would seem to warrant. Linton market, for hogs, was not amiss, the numbers shown being scarce equal to the demand. The wool market (if a market it can be called), when few prices are condescended on, is exceedingly dull. The wool, I believe, will be packed and carried to England, there to take its fate. Some people, however, are keeping back; and, if newspaper reports are to be trusted, very ample commissions are on the way, though from whom the public are yet to learn. Black cattle (except where ready for the butcher, or in full show of milk) have had dull sale through summer; perhaps the good foggages may quicken the demand.—*Aug.* 6.

Dumbartonshire Quarterly Report.

The weather, since last report, was favourable for the growth of corn and grass, till the 24th July last, when the rains set in with much thunder, and have continued very heavy, with little interval, till the present time. These rains have laid all the strong crops, especially the wheat, beyond the chance of rising again. Had they fallen in moderation, they were much needed, as the extreme heat had parched the ground very much; but even yet, if the weather sets in good, our crop will turn out well.

The wheats, although thin and unpromising in spring, have improved amazingly, in consequence of the genial summer, and, but for the excessive rains, would have been excellent in quality. Formerly no white wheat was sown in this district; but this season it has been very generally sown, and, from its appearance hitherto, with every prospect of success. Hay has proved a fine crop, the quality excellent, having been saved without a shower. The potatoes look well; and, from the quantity planted, will be equal to the demand, unless very bad weather ensue. Oats have been much benefited by the rains; but many fields of bear, from wet sowing, have failed. Every crop was got dry sown this year except the bear, and it bears the mark of its misfortune still. Upon the whole, if we have good weather for a few weeks, an average crop will be reaped; but in this county, where there is much high ground, it will not be out of danger from the weather for a considerable time; and when the weather breaks, after so much thunder as we had in the end of July, it generally turns out very wet, as the two last seasons demonstrate.

Markets for grain, which were lately very high, are coming down a little, and are expected to fall progressively as the harvest advances; markets for other produce much at the usual rates.—*Aug.* 6.

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Carse of Gowrie Quarterly Report.

DURING the last week of May and the three first weeks of June, the weather was extremely favourable to vegetation, particularly of grasses and late sown wheats, which had suffered much by the severe winter and spring. A considerable part of the wheat at the beginning of May was by many farmers scarcely thought worth letting stand; but, from the favourable weather that has since occurred, it will, in most cases, be a tolerable fair crop. The latter end of June and the first two weeks of July were free from rain, with much heat, which brought the different crops forward astonishingly, and was favourable for cutting and making the hay crop, which in almost every instance has proved good, and was in the tramp-rick (with few exceptions) before the rains came about the 20th ultimo. Since that time, there has scarcely been a dry day, which has proved very injurious to the luxuriant crops, particularly the fallow wheats, some of the best fields being lodged very much; and if dry weather do not come soon, the loss by its being so lodged, will be considerable.

Should dry weather set in, the wheat upon the whole will be fully an average crop; also barley and oats, the former of which will be ready to cut down in many places in the course of eight or ten days, though some few fields are earlier. Peas and beans may come to be equal to an average crop; but, in most situations, not more. Much depends upon the weather between and reaping time. General harvest is expected the week after next.

The clovers (second growth) look well in general, also the turnips; though, in some fields of very dry soil, there are blanks, but to no great extent. Potatoes, of which there are a great deal planted, promise well, and will, barring accidents, be a good crop. The pastures are very luxuriant, and afford plenty of keep for stock, which in most instances is doing well. Prices of cattle for the English and South-country markets are low, but good fat (which has as yet been scarce) brings 10s. per stone Dutch weight, sink.

The prices of grain, which are rather on the decline, are nearly as follows—Wheat, 40s. to 42s.; Barley, (little to sell), 36s. to 40s.; Oats, from 32s. to 40s.; Beans, 36s. to 40s.; Oatmeal, 33s. to 37s. all per boll, Linlithgow measure. Hay from the tramp-rick, 9d. per stone of 20 lib., Amsterdam weight. Day-labourers wages and yearly servants are lower considerably than last year.—— *August* 6.

Mid-Lothian Quarterly Report.

SINCE the first of May, few seasons have exhibited such mild genial weather as the present one, whether for the purpose of preparing the fallows for the succeeding crop, or the culture and advancement of the present one. About the middle of last month rain came and was needed; but, within the last fortnight, it has become excessive, not a single dry day has been seen to an end. A stop has been put completely to the operations of the plough, the harrow, and

and even the hoe. The growing corns are laid to a considerable extent. Beans and peas have assumed a black colour, and are affected in a great degree similar to what they were last year; and it is dreaded that some fields of wheat are not entirely exempted from the direful effects of mildew.

As little hay was secured in the stack before the commencement of these rains, it has sustained great injury, whether in the tramprick, the cock, or the swath; so much so, that it is supposed from one fourth to one third of it has been literally rendered useless. The river Almond has overflowed its banks amongst the growing corns; and as harvest will become pretty general in about two weeks hence, dry weather is most anxiously looked for.

Should this happy event take place soon, it will tend to dissipate the apprehensions at present entertained for the safety of a crop, which, to appearance, has seldom been exceeded, particularly in oats and barley.

Even the wheat, which, at the date of last report, was rather thin, has greatly filled up, has a fine ear, and, if well got without previous injury, will yield fully more than an average crop.

Under this impression, sales have been heavy. Oats, in particular, have been gradually dropping; and it is pretty well ascertained that neither oats nor barley would have reached such high prices, had it not been for the investigations of the late Sugar Committee.

Owing to the noise of scheming writers in the newspapers, the Magistrates of Edinburgh, some weeks since, thought it incumbent upon them to take a proof of the prices of wheat, and to fix the assize of bread; the result of which was, a rise of a halfpenny upon the quartern loaf, which the bakers had no intention of doing, had they been left to themselves. This circumstance shows, that speculators should either only write upon subjects which they understand, or confine their lucubrations to their closets, for which the public would thank them, and in which way they would enjoy the passive comfort of doing no harm.

The butcher markets have continued pretty steady, and are likely to continue so for some time, as the lambs which usually come to market from the high districts, at this period of the season, are much scarcer than usual, owing to the great loss amongst them in the month of April last.—*August* 8.

Letter from the District of Carrick, Ayrshire, August 10.

'This has been one of the most extraordinary summers ever remembered by the oldest people alive. The fine genial warmth that began with the month of May, has continued, without a single day's interruption, to the present time. The month of June and the first half of July were generally dry; but, though the heat was excessive, it was not a parching drought. Scarce a breath of wind was felt, except one day. In consequence of this, vegetation both of corn and grass proceeded with uncommon rapidity; and the former acquired a degree of strength and luxuriance seldom seen in this part

of the country. For the space of three weeks from the 15th of , we have had thunder almost every day, with immense torrents ain, for at least twenty miles round. This rain coming on at a critical time, has nearly blasted the hopes of the husbandman, h, in the former part of the season, had been raised to the highest 1. All the best and strongest of the corns have been laid flat; it is extremely doubtful if almost any state of the weather can er them ultimately productive. In fact, it is now distressing to them. The wheat, of which very considerable quantities are 1, must have received irreparable injury besides lodging, by and mildew. For three weeks past, there was nearly an u-rsal stop put to the making of hay. What was in ricks, re-ied so till within these few days, and must have sustained a con-rable loss. Great part of the natural meadow and moor hay is, mately, not yet cut down. The three weeks succeeding the 15th ily were equally unfavourable to all farming operations. While excessive heat and moisture encouraged the growth of weeds in mcommon degree, they brought the summer-fallows to such a tar state, that they were incapable of being wrought, or having g applied to them. For some days past, a favourable change 'eather has appeared, which, it is hoped, will, partially at least, edy these dreadful evils. Upon all our light grounds this year e are the best and most promising crops; and as a considerable : of our land is of this description, it will help to indemnify for loss sustained in the other. The price of grain has kept to-bly steady during the quarter. Oatmeal, which with us gene-y regulates the market, has been from 4s. to 4s. 8d. the stone, ch weight, in the Ayr market, and is at present 4s. 4d. : price of butcher meat has likewise kept up; though lean breeding stock, in general all that is intended for the South, is greatly depressed; and if there is such another year as last at close of the season, it will bear hard indeed upon the breeder and zier. It is almost unnecessary to mention, that owing to the ness of our population, and the present great demand for the y and navy, all farm labour and piece work is as high as ever; the price of land is daily increasing.'

Morayshire Quarterly Report.

'HE cold spring kept the young wheat plants from tillering for a ; time; but the unusual warmth which happened afterwards, ught them fast forward; and the crop, in point of quantity, may leemed an average one. There is, however, a very general com-nt of an unusual quantity of smut; and to all appearance it is well founded. The same tract of dry and warm weather, which the most beneficial effects on the wheat, operated quite differ-y on the oats and barley. On our thin soils, both are miserably ted; and although the late rains will occasion more straw, they not much add to the quantity of grain, especially barley, as a nd growth is always of inferior quality. Our loams and clays,

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on the whole, present a fair appearance of spring corn; and hitherto, none of the crops are materially injured by the wet. Beans and peas are but very partially cultivated in this county, and we have seldom any for export. Hay is a middling crop; but several fields lye in a very precarious state, being still in the *shake cole*. At our fair yesterday, there was a great show of cattle, and little business done. Choice beasts sold at about 25 *per cent.* under last year's prices; for inferior sorts there was no sort of demand, and the country is overstocked. Turnip and potatoe are both promising crops. There is now a sufficiency of grain and meal among us, and prices daily decline. If, during the winter and spring, Continental and American supplies are poured into the kingdom, and the Irish and our own crops prove abundant, while the distilleries are stopped, and cattle so much below par, it requires no great foresight to see unfavourable times for the agricultural interest; and that it should meet with a check, when such rapid and expensive improvements are carrying on through most districts in Scotland, is perhaps not the best of policy.—*August* 11.

Caithness Quarterly Report.

The summer months in Caithness have been uncommonly fine, although rather dry. The crops, in general, were panting for rain, which came about 20th July, and has ever since continued occasionally with the greatest violence. The oats have mended considerably, and may be considered a safe standing crop on deep soils; those on thin lands are rather poor, and not equal to two thirds average. The potatoe oat seems to thrive well on our deep rich loams; and, from the strength of the stalk, stands the violence of the rains better than the red oat.

The bear crop, in general, is but thin, owing to the intense drought in the early stages of its growth; although what was sown early, on deep well-laboured soils, has proved to be a weighty crop, and now begins to fill. There are some patches of bear on thin soils ready for the sickle; and, if the weather gets dry, harvest will be general in four weeks. The potatoe crop appears to be most productive. A great breadth has been planted; and I may safely say, that the method of managing this root in Caithness is equal to any practised elsewhere. The drill system is used here. We plant them on horse-litter; cover them by a double mouldboard plough; harrow when the weeds begin to appear, which levels the drills, and permits the potatoes to appear sooner. We then hoe and weed with the hand, when occasion requires; horse-hoe the intervals frequently; lastly, set up the plants by the double mouldboard plough.

The turnip crops are rather inferior this year, owing to the violence of the drought; however, since the rains came, they have made great progress; and there are many fields that will give a full average crop, and are getting their second and third hoeing. We seldom sow turnips broadcast, but cultivate them according to the drill husbandry,

husbandry, and in this way generally obtain abundant crops. Yellow turnip is found to be a very useful root, horses being fond of it in winter and during the months of February and March, as it keeps much better than the common red topped, and has more nourishment in the spring months. The Swedish is very fit for spring use, but often misgives unless early sown. Hay harvest is nearly over, but the crop has proved rather light in general. It is mostly in tramp cole, or in the hay-yard, and was got well and safe in. The method of winning hay in this district is as follows. We gather it from the scythe, or next day at furthest, into small *coles* or *cocks*. We cock it over every day, or second day, putting two into one, as we find the state of the hay will bear. By this method the hay is kept dry. No ordinary rain will penetrate very deep into the cocks; the hay is therefore *now* in a fine green state, retaining a good flavour, with all its natural juices preserved. In some counties I have seen the hay left from the scythe to dry on the field in the square, for four or five days, until it lost its colour; and when rain or foggy weather came on, it could not be gathered for weeks. The whole surface so exposed, could not fail to damage the hay in the shortest time. It is better never to risk, and so gather from the scythe. We are now cutting meadow hay, which is of fine quality this year, and on some meadows very heavy crops are raised. On a meadow belonging to Mr Smith of Olrig, which is naturally flooded with marl water, the crop, in general, averages from 3 to 400 stone an acre; 24 lib. Dutch to the stone. Cattle have been a dead stock this year with the farmer, which has put him to great hardships in this season of scarcity. Want of straw and hay in spring, reduced the cattle to mere skeletons; and many died of want, after having eaten the straw and seed corn. They are now getting into good order; and drovers have made their appearance, and give fair prices for good cattle. Many thousands of small Highland cattle are annually sent from Caithness, and prove profitable to the feeders in the South, as they yield fine sweet beef, and well mixed, of a superior quality to the larger cattle that are raised in the more southern climates. Caithness cattle are much improved of late, from the importation of bulls of the choisest breeds that could be found from various counties. There is hardly any old grain on hand, having been shipped off in great quantities, early in the spring, and to a greater extent than the county could spare; which occasioned a scarcity in the summer months, and caused sundry well disposed individuals to import small parcels, which supplied the inhabitants, until Sir John Sinclair, our Member of Parliament, with a liberality that does him credit, sent 1100 bolls, which his manager at Thurso Castle sells at prime cost in small quantities, even on credit, to every one who applies. This has proved a seasonable, and a most effectual relief to many individuals, and removed the apprehensions of want which at one period threatened us. The herring fishing has commenced with

with great promise at Wick, and all along that coast, and many barrels are already got.—*August* 12.

Letter from the County of Wigton, Aug. 15.

'THE weather, from the beginning of May to the 20th of July, was favourable for all kinds of farm operations, and also friendly to vegetation. The corn crops, at that time, looked in general remarkably well; but after the last-mentioned date, till the 9th August, there were great falls of rain, accompanied by thunder and lightning, more so than has for many years prevailed in this district, which put a stop to almost every branch of farm operations. The strong corns are greatly lodged. The clover and ryegrass-hay, which was a good crop, is greatly damaged, there being very little stacked before the rains set in. However, a few good days in the course of last week were favourable to those who embraced the opportunity of taking down the cocks, and of preparing the hay for the stack. Potatoes appear to be a very bulky crop; but I am afraid they will be much hurt by the rains, as they are getting two strong in the shaw. Turnips appear to be a bad crop. They were much hurt by the wire-worm at the root; and now a green worm has got upon the leaf, which appears at present to make a total destruction. Corn markets have been pretty high for some time past, but are rather upon the decline. Oatmeal is selling at 3s. 6d. per stone; new potatoes 1s. per bushel. There is little demand here, at present, for either fat or lean cattle, and the prices are rather upon the decline. The harvest is begun, several patches of bear being cut; but there will be no general harvest for two weeks to come. Upon the lands of Baldoon, the harvest will be general in the course of eight or ten days, and the crops are very bulky; but how they will turn out, time will only determine.'

Aberdeenshire Quarterly Report.

THE bygone quarter has been one of the finest and warmest that is perhaps in the recollection of any man alive. From the commencement of the good weather at the first of May, until the 18th of July, there fell very little rain, and the last half of the month of June, and first of July, was exceedingly dry and warm. A great deal of rain, however, has fallen since; but the wind, through the whole quarter, has been moderate.

Hay is a light crop on the whole, succeeding only on thick land in good order, which got up early, and could withstand the drought. Upon thin and high-lying land, it is almost nothing. What of it was early cut, was stacked in the highest order; but the fields which were cut late in the season, have suffered exceedingly by the rain. Pasture-grass has been rather scanty throughout. Potatoes have a luxuriant appearance; and, if dry weather set in soon, will be a very abundant crop. Turnips that were early sown are far advanced, and make an appearance on the ground almost beyond precedent at this season; whilst the later sown, on dry or exposed land, either could not vegetate, or were killed by the intense drought, before they could push

push the root far enough into the ground to receive support; therefore, in many cases, this crop has failed.

Oats, upon early and warm soils, were generally stunted before the rains broke out: they may be rich in grain, but are short of fodder. Where that is not the case, and upon all strong, damp, and late land, they exhibit a full crop, sufficiently early, with plenty of straw. Bear is, all over, a full crop, and very fine grain; part of it already cut down, and almost the whole within eight or ten days of being ready for the sickle. Nor are the oats far behind. The early kinds will follow the bear in immediate succession; and, in all probability, harvest will be finished in this county earlier than for many years past. So much for the fineness of a season, which can correct almost every evil,—can support the hopes of man, and render his fears idle and groundless.

Oats and oatmeal were, at the 20th of June, worth from 32s. to 35s.; bear 40s. per boll: they are now worth from 21s. to 25s. per ditto.

The price of labour continues with very little variation. Cattle in good order have sold, throughout the summer, readily, and at fair prices. Lean stock at low prices, there being few purchasers.—*Aug.* 15.

Letter from a Gentleman in Caithness, dated 16th August 1808, on Destroying the Grub by Rolling.

'Last summer, the grub did much damage. A clover lea field of mine, sown with potatoe-oats, was attacked, and, for three or four days, grubs were spreading fast. I applied a heavy roller (cast iron) of about 13 cwt. to it, about an hour before daylight, and, after a night intervening, a second time, which perfectly stopped their progress; and even the part attacked now bears a heavy crop, but not so forward as the rest.

'My servant who performed the operation says, that the whole surface was covered with grubs the first morning, but that he saw but few the second. Having this year had a very large summer-fallow, it called my attention to the effect of rolling; and from the application of my roller (28 inches diameter), I am satisfied that the stone and wood rollers in use among us, are of little if any advantage. The weight of the stone roller is too great for its diameter. When applied to rough land, it is heavy to work, and hops from clod to clod without effect. The want of weight in the wood rollers renders them of little use.

'In the west of Scotland, rollers are of cast iron, in divisions, which answer uncommonly well, and are particularly well calculated for turning.'

East Lothian Quarterly Report.

The grain crops of this county, previous to the last week of July, promised, with few exceptions, to make an abundant return to the cultivator; but the pleasant appearances of that time were in a great measure removed, by a succession of rains, which fell almost every

day, from the 24th July to the 13th of the current month, whereby, of course, the best concerted plans of husbandry were in some degree overturned. As the weather continued remarkably warm, and generally calm, it was apprehended that the strong corns would immediately suffer. Perhaps the damage is not so great as was dreaded; though it is evident, to the most superficial observer, that the wheats are materially injured. The thin-chaffed varieties are now usually sown in this district; and to this circumstance may be attributed the partial escape from mildew, in a season eminently calculated for producing that baneful disorder. What is surprising, wheat upon dry lands appears to have suffered most. Perhaps the crop, upon such soils, was in a languishing and debilitated state, at the period when the rainy weather commenced; and, though it might have been refreshed and recovered by gentle moisture, yet was unable, in its then sickly state, to bear up against the effects of the deluges which fell from day to day for such a length of time. For these reasons, the wheat crop of this county must be reported as much below an average as to quantity, and likewise as of inferior quality, to the produce of ordinary seasons. In fact, the goodness or badness of wheat, as has often been observed, depends entirely upon the degree of sunshine and heat which prevail, from the blossoming of the ear to the period when the grain is ripened. This year, wheat blossomed well, and so far matters went right; but the process of maturation was carried on under circumstances fully as unfavourable as in any season within remembrance, those of 1782 and 1799 excepted.

Barley would have been an excellent crop, had not the rains intervened. As matters were, this crop is still above par, though the grain will be coarser, and contain less saccharine substance than originally promised. Oats, which are a kind of aquatic plant, suffered less than the other grains; any damage done being chiefly confined to such fields as were lodged by the oppressing weight of rain, and unable to rise afterwards. Beans, in many places, were seized with the black canker or jaundice, as last year, though in an inferior degree; and many pea fields, on thin soils, assumed soldiers' colours; after which, improvement is at an end. All these crops, however, are superior to those obtained last year, as will soon appear from the market lists.

Whatever may be the extent of injury to the growing crops from the excessive rains, it admits of no dispute, that the summer-fallowed land has suffered most dreadfully from the uncommon saturation thereby bestowed. Coming at a time when fallows were generally completely reduced and broken down, a quantity of moisture was absorbed, which soured the ground, and retarded the after processes. In fact, the labour of the dry months has been in a manner lost; and, in numerous instances, the intention of fallowing may be considered as utterly disappointed. Very little dung is as yet applied; and, harvest being arrived, the work of one quarter is thus thrown on the back of another, rarely able to bear an additional burden.

Turnips

Turnips are a variable crop. Fields of light soil carrying this root, which were early sown, and timeously cleaned, may be reported as equal to those of any year; but, upon the late sown fields, especially those having the slightest disposition to clay, the braird was imperfect; and, since the rains, the plants, which had made any progress, are become yellow and sickly. Ruta baga is generally good. Potatoes, in most cases, promise to furnish an abundant return.

Among other evils produced by the rains, damage to the hay crop may be estimated as none of the least. When the wet weather set in, perhaps three fourths of the hay in the district stood exposed in the field, where it received irreparable injury. The loss, in many cases, was something like a total one; and in every case, perhaps, fully one third was considerably damaged. The custom of pasturing clovers in the early part of the season, and saving them afterwards for hay, now become prevalent with many farmers, necessarily causes a late hay harvest; whilst it also tends to impair the quality of the article, especially in late and adverse seasons.

The pasture lands have yielded a good bite; though it may be stated that, after the month of June, neither cattle nor sheep fattened so fast as might have been expected. This defect may be attributed to the uncommon heats of July, which generated immense numbers of insects, by whom bestial of all kinds were harassed for at least one half of every day. The rains which succeeded the warm weather, rather added to the evil, than procured an amendment; as the heat, though with intervals, continued as great as ever, whilst the grass lost its strength, and a damp bed remained for the bestial. Prices of fat have declined 10 *per cent.* in the course of the quarter. As for lean stock, the demand has been inconsiderable.

Upon the whole, rural matters, in this district, have not a very promising appearance at present. Owing to the excessive wetness already noticed, all kind of field-work is thrown out of shape, especially upon clay soils. Should the autumn quarter prove dry, and harvest be got cleverly over, matters may be restored to something like their usual state, though at a considerable increase of expense to the farmer; but, should autumn furnish variable weather, and harvest work become a tedious business, the ground lost will not be recovered, nor will the fallow fields be prepared for wheat, in any thing like a husbandman condition.——*Aug.* 17.

Postscript to the East Lothian Report.

Since the above went to press, the weather has become steadily fine, and harvest proceeded with a rapidity rarely witnessed in the best of seasons. The grain fields, especially those of wheat, being completely dead at the root, became ripe in the ear all at once; and, could reapers have been obtained in sufficient numbers, almost every field in the lower parts of the district might by this time have been in the stack-yard.

The injury to the wheats is now tolerably well ascertained. Those of the eastern part of the district have suffered least; but, over the

whole, the loss may be estimated at something like the half of an average crop, quantity and quality being taken into the estimate. In some instances, the crop will do little more than pay the expense of reaping and thrashing. Some of the potatoe-oats are also found to be defective.

Turnips, of late, have been attacked by blight or mildew, and threaten to be a poor crop. The disease affecting them may be attributed to the violent drought of the last fortnight, which has so bound up the soil, that the plants cannot receive their necessary food.——*Aug.* 31.

Letter from a Gentleman in Berwickshire, 2d August.

'I TROUBLE you with these few lines, to call your attention to a circumstance attending the disease called *mildew*, *yellow gum*, or *rust*, with which the wheat crop is at present infected. When examining some infected wheat on Thursday last with an acquaintance, we noticed a number of *very minute* black flies running about in the ears; and, upon opening those grains (or rather empty cups) that were tainted with dust, a cluster of yellow substances appeared, something like the figure of farina, only of a deep yellow, which, upon examining attentively, appeared to be in motion. This induced me to bring home several of the infected ears in my pocket; and, upon examining these next day with a microscope, I found that the clusters of yellow substances, which the infected grains contained, were congeries of very small yellow caterpillars, nestling with their heads downwards towards the root of the pickle, sometimes to the number of twelve and thirteen in a single grain. Though these caterpillars, while in the ear, appeared so sluggish that their movements were hardly discernible, yet, when shaken out to crawl upon a table, they exhibited considerable feats of agility, sometimes jumping an inch and more at one spring.

'Now, to me it seems probable, that these yellow caterpillars are the larva of the small black fly before mentioned, which may deposit its eggs somewhere about the ear, or in the grain itself, as the larva evidently feeds on the milky juice of the grain. If these caterpillars happen to be dislodged, by any means, from the ear, and fasten upon the straw or blade of the wheat in their fall, it is natural to suppose they will gnaw holes in the leaf and stalk itself in quest of food; and that their incisions and lacerations may, *in their turn*, serve as a nidus for the seeds of those microscopic fungi of yellow dust which Sir Joseph Banks describes.

'As I have no doubt but the fields in Lothian are in the same state as ours, I hope you will get some *amateurs* in natural history to watch the progress of this insect, which, when viewed through a microscope, is something of the annexed figure. It is about one sixteenth of an inch long, and *very narrow* to its length. The larva, or caterpillar, is about one tenth or one twelfth of an inch long; of a flat shape below, and rather thicker in proportion than a common gooseberry caterpillar. I have

found

found ſome of them in their *pupa* ſtate, when they take the ſhape which entomologiſts call *coarctata*. Perhaps you may have obſerved theſe ſmall yellow worms before this, but the diſcovery is quite new *to me.*'

Letter from Falkirk, August 18.

'HAD the reports for the current quarter been transmitted at the uſual period, they would certainly have held out the moſt flattering proſpect of an abundant, and very early harveſt, that had ever appeared in the Magazine. But, from ſuch a pleaſing ſtatement, a conſiderable deduction muſt now be made, in conſequence of the almoſt unparalleled wetneſs of the weather for a month, which has done extenſive miſchief to many of the crops, and thwarted every rural operation.

'Thoſe who, keeping in mind the ſterling wiſdom of the old adage, "of making their hay while the ſun ſhone," and who conſequently puſhed on that operation with unceaſing exertion, never had a finer ſeaſon, and ſeldom a better crop; ſuch, indeed, got it into the ſtack in the moſt perfect condition; but I believe they form but a ſmall proportion, compared with the number that were overtaken by the blaſt. I conceive that not leſs than a third part of the hay crop is entirely loſt for any uſeful purpoſe, and another third greatly damaged. As the crop was good, the price was at firſt expected to be very low; and, with ordinary weather, this would have been the caſe: now, however, good hay will certainly be dear. The after months have not agreed well with ſuch an exceſs of moiſture, and will not therefore afford ſo much food for cattle as in ordinary ſeaſons. Wheat, throughout the whole year, has been the thinneſt crop on the ground; but as it paſſed the blooming proceſs under favourable circumſtances, and at an early period, it would, with ordinary weather, have been of ſuperior quality. It has, however, been ſo long ſoaked in moiſture, lying flat on the ground, that much will in all probability be ſprung, and otherwiſe hurt, before it is got into the ſtook. The ſhearing of the early part of this crop has commenced, but much of it will be late. Upon the whole, the wheat crop will be below par.

'Barley, from being uncommonly early, and nearly all cut, has ſuffered leſs. It is a good crop; and, occupying a greater breadth of land than for ſome ſeaſons paſt, will be above the average of ſeveral bypaſt years. Oats are, almoſt everywhere, a very large crop; but, having ſuffered in many places in the ſpring from the grub, and alſo from the effect of the late exceſſive rains, they are ripening unequally. Beans, till of late, were never more promiſing, but they have, in ſome degree, followed the ſame courſe as laſt year. They are now much blackened, and quite at a ſtand, of courſe will be an inferior crop; but as this untoward appearance did not come on ſo early as laſt year, they will not be ſo much injured. The cleaneſt and beſt cultivated drill crops appear to have ſuffered more than ſuch as are broadcaſt, with a conſiderable proportion of peas, and overrun with weeds. Summer fallows are, in general, in a wretched con-

dition, except where great activity and exertion were made to forward them, for which the weather was indeed extremely favourable till after the middle of July. They are in a most deplorable state; and in no situation could dung or lime be got out, till every body was in hand with harvest work. They can scarcely therefore be got into decent order this season; which is an incalculable evil in a clay district, where so much, during the whole after rotation, depends on this primary process being substantially and completely executed.

'The quick start in the grain market, noticed in last report, in consequence of the injudicious interference of Parliament with the distilleries, was but of short duration; and most completely established the opinion then given, that although oats, from being originally a deficient crop, would of necessity continue high, yet that there was a very ample stock of wheat on hand to carry us on till harvest, and to make up for the deficiency of oats. If distillation from grain is not allowed to go on again, barley will be a very drug in the market. The property-tax business, after having excited a considerable sensation, and, at one time, a pretty strong appearance of a general cooperation through the country, seems to be quite at rest again. It is truly astonishing, the unaccountable apathy that has been so generally displayed in this matter, both by proprietors and occupiers of land. I suppose the point is now altogether conceded.'

Ross-shire Quarterly Report.

With little exception, we have had a summer as good as the heart of man could wish. It rarely happens that we have so great a portion of heat, which being attended with seasonable refreshing showers and dews, brought forward vegetation in the most rapid manner. Drought, however, threatened to overtake us about the middle of July; but wet, close, foggy weather set in about the 20th, which continued with scarcely any intermission for three weeks. The most of the hay crop being then only in ricks, sustained considerable damage; although, on part of it being carried, the latter end of last week, the injury was nothing like so great as was dreaded. Corn crops, in general, are good and early, harvest having commenced in many places, and several farmers will even have constant shearing, which is an uncommon circumstance in this quarter. The wheat crop is not, however, entitled to unqualified praise, as many fields are thin, and below an average. This, combined with the small quantity sown, will greatly lessen the quantity of that grain for market. Turnips, in most cases, promise to be an excellent crop; but, while we have so good a prospect of plenty of winter keep at home, and hear of abundant crops in the South, still, in the face of this, black cattle continue to decline in value. At Strathgarve market, yesterday, the show of cattle was not great. Sale was far from being brisk, at from 5s. 6d. to 6s. 6d. per Dutch stone, sinking the offal, according to fashion and condition. Highland wedders, rising four years old, sell freely at from 16s. to 18s. a head. Scarcely any corn was to

sell

sell during this quarter. Meal became very scarce, and advanced so high as 44s.; even 47s. was paid, per 9 Dutch stones; but so much has been lately imported, and the poorer classes now subsisting principally on potatoes, which are a very fine crop, that the price is already reduced to 36s., and will likely soon be much lower. —*August* 17.

Letter from Glasgow, 19th August.

'From the first of May to the end of last month, we had a tract of the finest, and at the same time warmest weather, which has been remembered here for many years. Under its auspices, every species of grain grew with wonderful progress; and we had reason to expect, together with an abundant crop, a very early harvest. About the latter period, however, we were visited with heavy falls of rain, which continued without intermission till the 10th of the present month. These have levelled with the ground a considerable portion of the strong grains, particularly wheats; and have, in some measure, disappointed our expectations of their arriving early at maturity. Some fields of barley, however, and, we understand, two or three of oats, have already been cut in our neighbourhood; and, if the weather continue favourable, such as it has been, especially since last Wednesday, we expect the harvest will be pretty general during the course of next week.

'Although some of the fields of wheat and oats, lodged by the rain, may be a little damaged, we do not imagine that any serious deficiency of either of these grains will be the consequence. On the contrary, we are of opinion that oats will be an abundant, and that wheat will be but little under an average crop. And this defalcation in the latter grain, it seems to us, will proceed rather from its thinness on the ground, than from any injury which it may be supposed to have received.

'Beans will be a tolerable crop; Barley abundant. Potatoes have a showy appearance; but we are sorry to hear a report that they are not so prolific as might have been expected.

'The importation of wheat from Canada, since our last letter, has not been considerable; and, from the very high price there of that grain, we do not expect many further arrivals this season. Should the embargo continue in the States, and no supplies be received from the Baltic, we are of opinion, that there must be a scarcity of old wheat through the winter.

'Vast quantities of oats have arrived here during the summer from Ireland, and fresh supplies continue almost daily to pour in. From the great stock of this grain on hand, and the prospect of an abundant crop throughout the country, we are inclined to think that the price, which has already suffered very considerable diminution, and still continues to fall, will be moderate for some time to come. Annexed you have a state of our market.

'State of Glasgow Markets, 19th August.

Dantzic	Wheat	40s. to 43s.	p. boll Linlithgowshire measure.
Foreign Red	do.	38s. — 42s.	
Scotch	do.	40s. — 42s.	
English	do.	42s. — 43s.	
American	do.	42s. — 44s.	do. of 240 lib.
Irish Mealing	Oats	30s. — 33s.	do. of 264 lib.
Do. inferior	do.	28s. — 30s.	do. Renfrewshire do.
Scotch Potato	do.	32s. — 33s.	
Do. Small	do.	28s. — 30s.	
English	Barley	35s. — 37s.	do. Stirlingshire do.
Scotch	do.	30s. — 32s.	
English	Beans	39s. — 40s.	do. do. do.
Scotch	do.	34s. — 36s.	
Do.	Oatmeal	32s. — 34s.	do. of 140 lib.
Fine Flour	-	68s. — 70s.	p. sack of 280 lib.

Berwickshire Quarterly Report.

THE heat of this quarter has been considerably above the usual temperature. Some heavy thunder showers took place in the first week of June, followed by five weeks of warm sunshine, with fogs in the night; but, towards the middle of July, the weather set in wet, and has continued variable and showery till within these eight days, by which the corn fields have been greatly lodged.

The whole wheat crop in this district appears to be more or less false in the top of the ear; in addition to which, the winter wheats have suffered most severely from the yellow rust, or blight, as it is called. All the early lodged fields became blackish, and, in several instances, proved so completely destitute of grain, that they were cut before harvest, and carried to the dunghill, the straw being totally unfit for any purpose whatever. Spring sown fields, though also infected, appear in general to have suffered but little comparatively. This malady began while the grain was in a soft milky state, at which period a great number of very small black flies were observable in the ears of the wheat; and when the yellow dusted chaff was laid open, and the grain inspected with a microscope, congeries of small yellow caterpillars appeared nestling therein, sometimes to the amount of twelve and thirteen in a single grain, which, in these cases, appeared entirely divested of its pulp.

Potatoe and Angus oats are good, but not so abundant in straw as they once promised. Polands are thin. Barley is universally good, and ripening equally. Beans are also a fair crop, where not attacked by the black insect; and peas, though in some cases thin, are everywhere well podded.

Turnips are good upon all the true turnip soils; but, upon retentive bottoms, they have of late got a sickly appearance.

The hay crop, which promised well before cutting, is now mostly got into the stack, though in a very damaged state; but there is every appearance of a luxuriant aftermath.

Pasturage

Pasturage has been good, yet few fat cattle have made their appearance at market; however, these few seem to have been fully equal to the demand. Beef has run from 6s. 6d. to 7s. 6d. per stone, sink; and mutton from 7d. to 8d. per lib. ditto, avoirdupois weight. Lean stock has all along been marketed with difficulty, and prices have in consequence been low. Hogs were from 15 to 20 *per cent.* below the rates of last year; and lambs, notwithstanding the numbers lost in the spring, were from 20 to 25 *per cent.* down.

Potatoes have a promising appearance; and young clovers seem healthy.

Most of the wheat fallows were caught at a critical stage by the rains, viz. while lying in the cross-furrow, which precludes the possibility of getting them now cleaned this season.

The wool market has been extremely dull; indeed, one half of the clip still remains on hand. The sales which have been made, may be stated from 25 to 30 *per cent.* below last year's price for long wool.

Harvest has, within these two days, become pretty general over the lower district of the county.——*Aug.* 20.

ENGLAND.

Account of Lewes Wool Fair.

Lewes, July 26, 1808.

Our wool fair never was more numerously attended, both by sellers and buyers, than it was this day. The buyers came full of arguments, derived from what was the state of some branches of the woollen trade several months ago, and by no means disposed to discriminate between the manufactures of fine and coarse wool: the sellers came disposed to take considerably lower prices than they had obtained two or three years ago. At dinner, every room in the house was full of company; and, not long after they had dined, they collected in the principal room, when

Lord Sheffield rose, and stated, That, preparatory to the meeting, he had not neglected to make every inquiry respecting the trade in wool and woollens; and the result confirmed the opinion which he had formed, that the manufacture of fine wool has suffered, comparatively, but little, in consequence of the machinations of foreign powers. The home market, including the whole of the British empire and its dependencies, takes nearly all the superfine manufactures, and by far the greatest proportion of every manufacture; and the best customers are the people of England, who consume much more superfine cloth than they used to do. The middling classes have found that finer cloths are the cheapest; and the opulent now use nothing but the finest, even for their great-coats. There may be a decrease in the export of second-rate woollens; but the countries to which we supply those articles, cannot long do without them. They will procure them circuitously; and we know, that neither an em-

BARGO nor a NON-IMPORTATION AGREEMENT, will prevent our woollens from going to the American States, through different channels, as they did during the American war; and even at present, it is not the want of orders, nor the embargo, but the distrust which has prudently taken place in this country, in respect to the American States, that principally checks the export to that country.

As to the value of fine English wool, which is more particularly the object of the meeting, there is reason to believe that it will be at least as high, and probably very soon considerably higher, than it was last year, when it was reduced very much below the price of preceding years.

His Lordship then stated, That he was in correspondence with many of the principal persons in every part of England where there are wool fairs, and with those parts where are situated the principal manufactories of wool. The fine wools that were sold within a few months past, readily found a market at last year's prices; but there was very little demand for the coarser wools. The general opinion is (particularly in the west of England), that the price of fine wool will exceed that of last year; and that coarse will not attain last year's prices.

There was scarcely any business done at Ashford, Thetford, and Colchester fairs. At Colchester and Thetford there were many buyers present, but the growers would not take less than 2s. 1½d. per lib. Not much business was done at the Herefordshire fairs; but the fine wools of that county were at about 3d. (some accounts say 6d.) per lib. lower than last year; and coarse wools in those parts were not in demand. All dealing seems to be suspended. No sales have taken place with any degree of regularity. Great alterations are expected in the trade to Spain, Portugal, and Russia, and that there will be a wonderful alteration in the price of wool. However, Mr Wilbraham of Delamere Forest has sold his wool, nearly the same quality as South Down, at 2s. 6d. per lib.; and Mr Curwen of Cumberland has been offered the same price for his South Down. The import of foreign wool essentially affects the price of fine British wools. The bad policy which prohibits export, and encourages the import of the refuse wools of Spain, Portugal, and Germany, greatly checks improvement in the quality of British wool, and sacrifices the agriculture of the country, wool being treated differently from all other articles of commerce, and not allowed to find its real value at market; to which alone is to be attributed the debasement which took place in the quality of our wool; for it is well known, that the wool of these islands was much better before the export was prohibited, and import encouraged, than it has been since. These importations of inferior wools have always operated severely against English wools of a similar kind to South Down; at the same time, there is no doubt, that Sussex, Hampshire, and Dorsetshire alone, if encouraged, could render us independent of other countries for the raw material of our great staple manufacture of

WOOL,

wool, and save an immense sum yearly to the nation. The import of wool last year, if on an average worth 5s. per lib., amounts to 2,940,000*l.* The import of wool in 1807, amounted to 11,760,000 lib.; but that was a most extraordinary importation, probably occasioned by the apprehension of the impending storm in Spain. Previously to the French revolution, and the consequent destruction of the manufacture of fine wools there, our importation never had exceeded four millions of pounds, and sometimes was not more than one million; but, in 1800, the import arose to 8,500,000 lib.; and last year, the import from the south of Europe alone was 10,693,088 lib., which is not far short of double that of the preceding year, viz. 5,964,672 lib., although that exceeded the average importation.

Upon the first appearance of Bonaparte's projects in Spain, the manufacturers of Spanish wool in the west of England bought very eagerly at 6s. 9d. for the best piles, and so in proportion for inferior; until, by their purchases, and those of speculators in the article, nearly the whole import of last year has been sold by the importers; nevertheless, there are at this moment several thousand bags of Spanish wool (some importers say, at least 15,000), in the hands of the Blackwell-Hall factors, and of others who have become speculators, which they hold ready for sale whenever a good price can be obtained; and, for some of those now on hand, 7s. per pound have been refused, and 8s. demanded. The prospect, however, has since very much changed; and it is not improbable that a considerable quantity of Spanish wool may find its way to England in the course of the year; but much below the usual quantity, as she had sent every thing away except the clip of this year. At present, however, Bilboa (only a few leagues from France), from whence comes almost the whole of the Spanish wool, is occupied by the French; and the war, now in the heart of the country, must necessarily derange its commerce. Many of his correspondents complain of the prejudices, and of the want of knowledge and discrimination, on the part of the wool buyers, who refuse an adequate price for English grown wool of the finest qualities; they not adverting to the circumstance, that the improvement of English wool will uniformly keep pace with the improvement in price. This lowness of price has induced several to send their wool to Ireland. Mr Western of Essex sent his wool of last year there. It was damaged by sea-water, in the opinion of wool-sorters, to whom it was referred, 1s. per pound; yet it was sold by auction, even under these circumstances, at 3s. per pound. At the Dublin public sale in March last, the Marquis of Sligo's pure South Down wool sold at 4s. per pound; Mr Wynne's at 3s. 9d.; Mr Grierson's at 3s. 10d.; and Mr Symes's at 5s. 4d. per pound, Irish currency, which is one penny in the shilling less than English. It is now proved most satisfactorily, by the experience of the last 20 years,—and the country is greatly indebted to Mr Tollet, Dr Parry, Lord Somerville, Sir Joseph Banks, and others, for their judicious experiments and proofs,—that

wool

wool may be grown in England equal to any that is usually imported. Mr Tollet has lately sold, to the same person who has bought his wool for several years,

115 Merino fleeces, weighing 505 lib. at 4s. per pound;

856 fleeces, mixed breed, weighing 3373 lib. at 3s. per pound;

—that is, 606*l.* 19s. (ready money) for the fleeces of 971 sheep, being the same prices he obtained last year. The Merino wool sold at 4s. was washed on the sheep's back, in the usual manner; but when washed again, without sorting, to the state in which Spanish wool is imported, it sells for 6s. per lib.

The manufacture of superfine cloth, as already mentioned, has by no means suffered in consequence of the deranged state of Europe; in particular, at Bradford, in Wiltshire, it has been carried to a pitch never known there before. About three or four weeks ago, his Lordship visited some of the most extensive and best manufactories (and very excellent they are), in Gloucestershire; and he was every where told that they were not affected by the war, they being fully employed in the country trade.

The increased consumption of Spanish wool in our manufactures will require an increased supply; therefore, supposing the ports of Spain to be open to us, the supply which we shall receive this year, (certainly not so abundant as usual), added to the extra quantity imported last year, will not exceed the demand so much as to reduce that article below the usual price; and not a lock of wool can be expected from the north of Europe, from whence we have latterly received about 750,000 lib. annually. His Lordship was sorry, however, to learn that the woollen manufacture of Yorkshire has lately been by no means in so prosperous a state as in the West of England; but a very considerable quantity of the second rate manufactures of wool has certainly found its way to foreign countries, and every day the demand has increased. Indeed, all the enemies to British commerce, will never be able to prevent their going where they are wanted, as soon as there is time to contrive the means. But if the exertions of the glorious people of Spain should succeed, as every friend to mankind must wish, the export to Spain and Portugal, and consequently to every part of South America, will raise the woollen manufacture of England as high as it has ever been; and perhaps, at first, still higher, to make up the deficiency in the supply of woollens for some time past; and the state of the Continent of Europe must prevent all competition. It is reasonable, therefore, to suppose, that the price of fine wool especially, should not be lower, but higher, than it was last year; and if the liberation of Spain should take place, and France and the United States should be tired, as it is supposed they are, of the silly attempts to prejudice the commerce of this country, there is no reason to doubt, that the demand for every kind of woollen will be much greater than it ever has been at any period.

This statement was acknowledged to be fair and candid; but, notwithstanding

notwithstanding there appeared to be less difference of opinion between buyers and sellers than usual, they did not immediately agree. The wool growers demanded from 2s. to 6s. per tod less than they demanded at our fair last year; and from 1s. to 2s. more than they had since received. There is every reason to believe, that the good wool will sell from 2s. to 2s. 6d. per lib., and some higher. Lord Sheffield exhibited specimens of fine wool grown in England, by Mr Tollett of Swinnerton-Hall, Mr Portman of Dorsetshire, and Mr Hall of Leigh Court,—some pure Spanish, others of mixed breed,—and also made several communications in favour of the Spanish breed: That the frame of the Merino sheep is rapidly improving; and that a three-year old Merino Ryeland wether, bred by Mr Tollett, weighed 33 lib. per quarter, and his fleece 5 lib. of superfine wool.

The health of the founder of the fair was drank; and of the Duke of Bedford, and Mr Coke, preeminent friends of agriculture; also of the Lord Lieutenant, the Duke of Richmond, the Earls of Egremont and Chichester, Sir Joseph Banks, &c. &c.

Copy of a Letter from Mr Francis Blaikie, Bailiff to the Earl of Chesterfield at Bradby-Park, addressed to Sir John Sinclair, Bart.

Bradby-Hall, July 9th, 1808.

'I AM induced to submit to your consideration the following statement, and the result of experiments on the smut in wheat, under a supposition that, though the discovery is not perhaps new, yet that it is not generally known. If you should think my observations worthy of your attention, and deserving of being made public, I shall feel satisfied in having contributed my mite towards the improvement of my country in its nearest and dearest interests.

'I was led to make the following observations, from having, for several years, observed by the public papers, that on the approach of harvest, there has uniformly been a complaint of the smut in wheat in certain districts; and also having, from local observation, heard one farmer complain of the smut in his wheat crops, while the adjoining farmers' crops were perfectly free from it.

'One farmer sits down contented with his crop of smutty wheat, under an idea that it has been caused by something pernicious in the atmosphere. A second thinks it is owing to the nature of the soil, which, he says, always grows smut. A third (better informed) says it is owing to the seed, which, though brought from a distant district, *for change*, and appearing to be pure seed, yet produced smut. He therefore concludes it is of no use to change the seed, as he is still liable to buy smutty wheat. Various other causes are also assigned for the disease; but these are unnecessary for me to mention.

'It has surprised me much, that sensible practical farmers and agriculturists, should still remain so much prejudiced (even against their own interests) as not to endeavour to eradicate this pernicious disease, which it is certainly within their power to do. The means by which I think it possible to accomplish so desirable an object, are, *first*, To impress on every agriculturi mind that the disease originates

originates with the seed; *secondly*, That it is in a high degree infectious; and, *thirdly*, That the same preventive and cure is to be effected by proper care and attention to the established practices of well washing and rinsing, or pickling, the seed.

'It has been found by experience, and is pretty generally known, that smutty seed will produce smutty crops. But, I believe, it is not generally understood, that the most smutty seed, by being properly cleaned, will produce clear crops. Such, however, is the fact; and I have found, that the purest seed will (by being inoculated) produce smutty wheat. It is for naturalists to assign a cause why the disease should be infectious; but it is sufficient for the practical farmer to know that the fact is established; and it is in every one's power to satisfy himself on that point.

'Many farmers have felt themselves disappointed in not having the wheat crops clear of smut, after being at the trouble and expense of changing seed, and even washing and brining that seed; not being aware of the infectious nature of the disease, and that the very means they were taking to clean the seed, was also perhaps the means of inoculating it with smut. For, after the operation of pickling is performed, the seed is generally spread on the barn floor to drain, and probably on the same floor where smutty wheat had previously been thrashed; or, perhaps, the seed is put into sacks in which had been smutty wheat but a short time before. The inoculation is then complete; the seed is sown; the produce will invariably prove smutted; and the farmer feels himself disappointed after all his trouble and expense.

'It would also be prudent in every farmer to see to the washing and pickling the seed himself; for, if he trust that operation to servants, he will generally find himself disappointed.

'I have known some farmers sow the same wheat for a succession of years, and with very little preparation, or cleaning the seed, yet have no smut in their crops: So they may with safety continue to do, so long as they keep clear of the infection, by not borrowing or lending sacks, by change of barn, of implements, &c. The infection is also probably carried from the barn-door, when the dung is taken green to the fields, without being properly turned and fermented. It is likely there are various other ways by which the infection is communicated, but which the careful farmer will guard against when he becomes more sensible of the contagious nature of the disease.

'I shall now state the result of two experiments made in the last and present years, 1807 and 1808, on Bradby-Hall Farm, *County of Derby*, the property, and in the occupation of the Right Honourable the Earl of Chesterfield, which experiments were patronized and inspected by his Lordship.

'1*st*, In the autumn of 1806, Lord Chesterfield bought a peck of very smutty wheat from a neighbouring farmer (who had that year great loss in his crop from smut). A piece of land being set apart for the experiment, one half of the wheat was sown in the state in which

which it was bought. The result proved, as might be expected, two thirds of the produce being smut.

'The other half peck was washed as clean as possible, changing the water three times, and then put into a brine, (strong enough to carry a new laid egg). It remained in the brine two hours, being stirred up twice in that time. When taken out, it was dusted over with quicklime, and sown on the other half piece of land. The result proved entirely satisfactory; for it produced a full crop of fine wheat, without a single ear of smut.

'*2d.* Last autumn, Lord Chesterfield (by way of change in seed) had the whole of his seed wheat from Dunstable. It was fine, and perfectly free from smut. Six ears of smut were saved from the preceding year's experiment. They were put into a small bag, and rubbed therein. The smutty grain was carefully shook out of the bag, so that there only remained the black dust. A quart of Dunstable wheat was then taken, (and, though perfectly clean at the time), was washed in three waters, and put into the smutty bag for inoculation. It was shook in the bag, (in which it remained two days), and was afterwards sown. The result is highly satisfactory in proving the effect of inoculation, as a very great proportion of the produce is entirely smut; while, out of 20 acres sown with the same seed (not inoculated), not one smutty ear has been found, although carefully examined for that purpose.

'The experiment of last year was shown to many gentlemen and neighbouring farmers; and the one of the present year now remains for inspection.

'The inoculated wheat, when reaped, will be carefully thrashed, and the produce kept, to show to any person who may, from the preceding observations, think it worth examination.

'Since the advance in the price of salt, the expense of good brine for pickling the seed wheat, has become a consideration to farmers; and, in consequence, various substitutes have been adopted, frequently not efficacious. It would be very adviseable, that, in addition to all other precautions, the seed should be well washed, and all refuse skimmed off.

'The following statement will prove the accuracy of the foregoing observations.

'In the autumn of 1805, having finished wheat seed on Bradby-Hall Farm, I advised a neighbouring farmer to send for pickle which was left. He had suffered much in former years from smut; and, previous to his sending for the pickle, had that year sown half his wheat seed, *brined in his usual way.* The remainder of the seed was well washed, was pickled, and proper precautions taken in the manner I directed. The result was satisfactory; for the crop, from the first sown, proved full of smut; whereas, there was not one smutty ear to be found amongst the latter sown.

'I shall feel happy, if any part of the foregoing statements be found worthy of your attention, as, perhaps, it may in some measure excuse the tediousness of the detail.'

Wiltshire

Wiltshire and West of England Quarterly Report.

THE appearance of the wheat crop is at present good, being greatly improved by the late warm weather. In the district where barley is principally grown, that grain is considered as promising an abundant return. The oats are much blighted. Beans suffered from the want of moisture; and, though making a good appearance some weeks since, are now likely to be a middling, or rather a defective crop. The peas are generally equal to an average.

The produce of hay and clover is large, and generally taken in well. The late dry hot weather has been unfavourable to the turnips; consequently favourable for the other fallows.

Prices of grain—Wheat, 76s. to 84s.; Barley, 36s. to 44s.; Oats, 36s. to 44s.; Beans, 66s. to 70s.; all *per* quarter.

No markets yet for sheep. Lean cattle have sold at prices inferior to those of last year through most of this season. Fat cattle sell high.

Prices of shamble meat—Beef, prime, 7½d. to 8d.; Mutton, 8d.; Veal, 8d. to 8½d.; Lamb, 8d.; all *per* lib. avoirdupois.

There is some difficulty in ascertaining the price of wool for this year, as it is yet early in the season; but, according to the best intelligence, long wool is selling at about 20 *per cent.*, and fine Herefordshire about 10 *per cent.* lower than last year. Little done yet in Wiltshire wools. It seems improbable that they will bring as much as last year, viz. from 15d. to 18d. *per* lib. short wool; South Down, 18d. to 22d.; but if the newspapers may be credited, a considerable advance took place in the late fairs. Plentiful rains have lately fallen.——*29th July.*

Letter from Wales, 2d August.

'THE summer in this quarter of the island has proved very favourable, and, at present, there is an appearance of a good crop of corn of all kinds. The hay crop is greater than for many years past; and the produce of the early and best grounds has been got in, in good condition, the weather having continued fine till the 14th of July. That night we had the most dreadful thunder and lightning ever remembered in this country, accompanied with a very heavy rain and hailstones, which beat down the wheats in every shape; and I fear we shall have a great deal of work, and but few hands to cut it up. Since the rain commenced, the weather has been very unsettled, scarce a day fair to an end, which has placed the late hay in a bad state. This day is fine, and I hope there is going to be a change, as the corn is in general ready for the sickle. Some people have just begun to cut patches where it is much laid; and, by the beginning of next week, the harvest will be general through the Vale of Glamorgan. The wheat and barley will furnish a great bulk of straw; but it is hard to say how they may turn out in the barn, being so much laid. There is every appearance of a fine crop of oats, also of peas and beans. The peas are mostly cut, and a great deal will depend on the weather during this month. The turnips have but a poor appearance at present, the fly having prevailed so much through

through the country, that hardly a good field is to be seen. Potatoes, of which there is an uncommon quantity planted this year, look as if they would give an abundant return. More are already come to market than can be sold. The quality is very fine. We have but a thin crop of apples; but what there is, looks healthy. There is little of any other kind of fruit. Butter and cheese still hold their price; and butchers' meat rather on the advance than otherwise; but the demand for store cattle seems to be over for the present; indeed, prices have been on the drop ever since the month of May. Store pigs are a mere drug: we have such numbers from Ireland by the ships that come for coals, that our trade in that article is quite ruined. Store sheep and lambs are also much reduced in price. Lambs, that last year were worth 18s., are not now worth more than 14s.; and wool is cheaper by 5s. in 21 pounds. Best wheat, by weight, 28s. for 168 pounds. No other grain at present at our market, and little of any kind in the country. I have no doubt, if the weather is good, but we shall have new wheat, barley and oats, at market in a fortnight.'

Northumberland Quarterly Report.

THROUGH the whole of May to the middle of June, we had remarkably fine, fresh, mild, growing weather; and from thence to the middle of July, uncommonly hot and dry. On the 20th, we had the first rain; since which, it has continued almost constantly wet, calm, hot and sultry; by which hay is materially injured, very little being secured before the wet set in.

The wheat crop, previous to the rain, was everywhere looking healthy, and promising abundance; but the scene is now changed, and the prospect is unhappily reversed. The great crops are mostly lodged by the heavy rains; and there are few fields to be found free from the ravages of the small yellow maggot, that did so much mischief a few years since, by destroying the germ soon after the plant had flowered. There is also great appearances of the rust or fungus on the straw; and the general opinion is, that the wheat crop will be a very failing one through all this district.

Barley is in general an abundant crop, in many places ripe, and will be cut before the early oats, which is not often the case here. Oats upon dry lands have been injured by the drought; but, on the whole, may be taken at an average crop. Peas and beans are well podded, and will be early harvested. The dry weather proved very favourable to these crops; and they will, of course, be more than an average.

The turnips and ruta baga that were sown early, and while there was a sufficiency of moisture in the ground, are very good; but the greatest part of what was sown later, did not vegetate until the rain came. These are not looking well at present; but if the autumn be favourable, they may get to be a tolerable crop for spring food.

Markets for live stock continue very indifferent. At Yetholm fair long woolled lambs were sold for 12s. to 15s. Three years since,

lambs from the same flocks sold for 21s. to 25s. The wool trade has been exceedingly dull, and prices low. At the beginning of the season, not more than 8d. *per* lib. could be had. At present there is a small advance. Some parcels have been lately sold for 9d. and 9½d. *per* lib., which is much short of the prices obtained of late years.

Corn markets are on the decline. Oats, which a month since were sold at 7s., are now fallen to 5s. *per* bushel.——*5th August.*

Letter from Lynn, 10th August.

'Some little time ago the crop of wheat in this district promised to be a good one; but, in the course of the last fortnight, a mildew has taken place, and four fifths of the crop are most materially injured thereby, the straw having become quite black, whilst the kernel is dwindled into a lean and shrivelled condition. Barley and oats promised also to yield an abundant return; but they are partially affected also by mildew, and by the severe drought. Still they will be good crops. Of peas, not more than half the usual quantity were sown, and of that half many are very bad. Beans will not at all be more than half a crop: the very intense hot sun actually parched the blossom at the top of the stalk, and there are but few pods. Very little rapeseed grown this year; but a good deal of mustard.'

Yorkshire Quarterly Report.

The state of the weather, after spring seed-time, was such as to appear threatening to the vegetation of the crops of the various kinds of grain committed to the ground. The unremitting severity of the spring frosts, it was expected, would cut off every blade as it appeared above ground. Yet nothing seemed to suffer materially from that cause, except the peas, some fields of which have failed. The unparalleled richness of the succeeding season, when summer at once burst forth in its highest splendour, made ample amends for every previous defect. Indeed, the effects on every species of growth, were almost like those attributed to magic, such was the uncommon rapidity of its progress. The succeeding plentiful rains for some time suspended the work of turnip fallowing, so that they were likely to be put into the ground when in a very imperfect state of preparation; and when drought ensued, such was the hurry to get them sown, that it was surprising to see the fields green with turnips a very few days after they were fit for working again. Indeed, the early sown crops are by much the most promising; those sown later on light, sandy and gravelly soils, have many of them failed; and, on resowing, are not likely to be of much value. On fertile loams, there are some very good crops; but on limestone soils, the failure is most apparent. The heat of the weather was too powerful for them in general.

Summer fallows are not in the most advanced state of culture, notwithstanding the opportunity seemingly offered by the hot weather of June and July. That time was fully occupied by the turnip fallows and the hay-leading; insomuch, that if the present showery season

season continue much longer, the remaining fallowing work that can be done, will make but a very indifferent preparation for the autumnal wheat sowing.

The crops of hay and clover have been in general good, and remarkably well secured; except in the more mountainous parts of the county, where much will be spoiled, being yet out. A bad practice prevails of feeding sheep on meadow lands till the middle or latter end of May, from which late reaping is of course inseparable.

Wheats of this district, though extremely thin and unpromising after the spring frosts, gathered strength so uncommonly during the fine weather afterwards, and their flowering season also seemed so completely past without rain to impede the full fructification of the grain, that well-founded hopes were formed of an exuberant crop. But, alas! after the heats, a very few days of showery weather, with thunder and lightning, have brought on a melancholy reverse. In short, the most extensive and destructive mildew has taken place in every circumstance and situation, aspect, soil and management, that was ever known. In many cases, hundreds of acres have been reaped, and carried to the dunghill, the ears affording no grain that can be thrashed out.

The crops of barley are generally good, though much lodged. Oats and beans are of middling produce. Peas a failing crop. Rye a pretty good one. Potatoes appear productive; and, of course, this crop is likely to be very valuable. Some oats and barley are already cut in various parts of the county. Had wheat escaped the mildew, it would have required about two weeks time for ripening. As matters are, it seems of little consequence when cut; yet perhaps the earlier the better.

The price of grain is upon the advance, which, under present circumstances, is not at all to be wondered at. The best wheat, is about 12s.; rye, 8s. 6d.; barley, 6s.; oats, 6s. 6d.; beans, 8s. 6d.; *per* bushel of Winchester. Potatoes, 4s. *per* ditto, upheaped.

Fat and lean cattle, and sheep, are now selling rather better than for some time past. Pigs are lower. Beef, 8d.; mutton and veal 7½d. *per* lib.; butter, 1s. 3d. *per* lib.—Good horses are dear; ordinary ones not very saleable.

Fine wool is not much lower than last year. Coarse long wool is selling at a price much inferior to that of the same period. The after-grass pastures, seeds, &c. are much improved by the late rains; so that, on the whole, no fear is entertained of any want of food for cattle.—*Aug.* 10.

Lincolnshire Quarterly Report.

SELDOM has the weather proved more favourable for the deep and fenny lands of this district, than in the present year; and, by consequence, every kind of crop thereupon produced, displayed the finest appearance in the middle of July that can be imagined. The rains which afterwards fell, impaired the prospect considerably, and caused such a lodging of the grain crops, as to augment the expense of

harvesting very much. Harvest is going briskly forward, so far as hands can be procured, though it is to be dreaded that not a little of the grain will be lost for want of reapers. In the fens, 25s. per acre, of 160 poles, is paid for the cutting of oats, and should more hands not arrive from Ireland and Scotland, the most serious injury will be sustained by many people. In the fens, many of the farmers are new at their present business. They were all graziers before the enclosures were made, and, of course, are not adepts at corn husbandry. Upon the opposite side of the county, namely, from Gainsborough to Hull and Barton, the land has been ploughed upwards of a hundred years, and plentiful crops of hemp, flax, potatoes and wheat, obtained. Indeed, the same remark is applicable to the Wolds; with this difference, that the crops usually taken are turnips, barley, clover and wheat. In this way, the land is not turning worse, but rather better and better, as the fallows are regularly manured, while the weak and sandy soils are strengthened by marl.—*August* 11.

Norfolk Quarterly Report.

THE fine continued rains during the latter end of May and beginning of June, caused the hay crop to be more abundant than has been remembered for many years, and the season for making it was never finer, though the *eddishes* suffered greatly from the severity of the after-drought. The late fine rains have, however, made a great alteration in the appearance of those grasses; and at this time there is a fine prospect of autumn feed. The season for sowing turnips was excellent, and the genial showers at the time of sowing, brought the young plants quick away; but, in some parts of the county, (and that to a very great extent), they were taken off by their destructive enemy the fly; therefore, many farmers were obliged to sow a second time. The prospect of this second sowing is not amiss, though it is not likely the crop will be fit for the hoe these three weeks; therefore the roots cannot be expected to come to a full size. Where this valuable root escaped the ravages of the fly, it never looked in better health, nor more vigorous. Considering the abundant crop of hay, the fine appearance of the potatoe and turnip crops, a full supply of winter food for the cattle may be depended upon. The fall of lambs was abundant; those already brought to market, which are chiefly twin and tail wedder lambs, half breeds, Down and Leicester, have sold from 14*l.* to 18*l.* per score. Fine short wool sells as high as 58s. per todd. The wheats are but thinly planted, and suffered much from mildew and blight. It is certain, that both in quantity and quality, they are far inferior to those of last year. Barley and oats are good crops, particularly the latter; and the breadth of oats sown this year, exceeds that of any preceding one. Peas are a short crop, but few are now sown. Lean cattle have not fetched prices equal to late years. Store beasts were bought in, at the rate of 4s. per stone, when fat. The price of Beef and Mutton has continued pretty steady, say from 8s. 2d. to 8s. 9d. per stone, for fine quality; Pork, 7s. 6d. to 8s.; Veal, 7s. 6d. to 9s.

9s. 4d. per stone of 14 lib. Our harvest is become pretty general, but little grain of any kind yet housed, the weather continuing very unfavourable for that work. The weather, however, is quite suitable for what is called bastard fallowing; and the lands in that sort of preparation will, in all probability, be put in good condition for receiving the seed.—*August* 12.

Letter from the East Riding of Yorkshire, August 15.

'SINCE the date of my last letter to you, the weather was so far favourable to the growing crops as to cause them to appear tolerably promising, till about a fortnight ago, when wheat was discovered to be affected with the mildew. It was at first but little noticed, but the disease has now gotten to an alarming pitch; that, together with the heavy rains that have fallen, and beat down the crops as flat as they can be, will cause a very considerable drawback upon the profits of the farmer, and a great deficiency in the supply at market. The quality will be very indifferent. Indeed the crop of wheat may be stated to be considerably below an average, and full one third below what might have been expected. The oat crop will be near an average. Barley will be very abundant; and beans will be below an average near one fourth. The fallows are in a shabby state, in general, as there has not been a sufficient length of dry weather to get them cleared. Turnips are very variable. Where they have been sown early enough to get into strong plants before the hot weather commenced in the middle of June, they are very good; where that has not been the case, they are very indifferent. Harvest work began with early oats on the 1st and 2d instant, and with wheat on the 5th instant. The price for reaping is high, 16s. and 18s. per acre being paid in many instances. The crop of hay is good; but much of it was rotted before it could be carried. The cattle and sheep markets continue very low. Fat is selling at 6s. 6d. and 7s. for beef, sink; Mutton, 6d. per lib.; Lamb, 6d. per lib.'

Letter from London, 17th August.

'SINCE last report, the trade of this market has been, in a great measure, confined to the intercourse of the out-ports of the kingdom; the only exceptions being, in the arrival of a few cargoes of oats from Ireland and the Continent, and the shipment of a little English and some American flour (from under the King's Locks) to our West India colonies. The supplies of grain of all kinds have equalled the demands of the season; and the fluctuations in the trade, in general, have not been great. During the quarter, commencing the 4th April and ending 2d July, the average weekly quantity imported in ships appears to be, of

Wheat -	6137 quarters.	Oats -	16,313 quarters.
Barley -	2655 do.	Beans -	1302 do.
Malt -	2654 do.	Peas - -	205 do.

These, it is to be observed, are exclusive of flour, malt, and various other articles which arrive in considerable quantities by inland navigation.

navigation. Since last report, wheat has advanced 4s. to 5s.; Barley and malt, 2s. to 3s.; Grey peas have declined, 10s. to 12s; White peas, 30s. to 40s.; and Oats, 3s. to 4s. per quarter. There are no great stocks of any species of corn here. It is understood, however, that the quantity of wheat in the country is pretty considerable, and that all other sorts (especially barley) are a good deal exhausted.

'In the counties around London, the harvest has been begun two or three weeks ago; but its progress has been interrupted by the rains that have fallen. The accounts of the crops are not flattering, but yet not of a nature to cause despondency. The wheats in almost every county, particularly where they are luxuriant, were beaten down by the rains in the end of last month, and have been attacked by mildew. In the light lands a white blight has appeared, and sprouting and smut are also complained of. Upon the whole, therefore, we must not look for either the quantity or quality of the last crop. Barley promises to be an average crop, but it has suffered from the rains; and the complexion and quality are likely to be coarser than last season.

'Oats, on good lands, promise abundance, but are deficient on light soils. Beans and peas were improved greatly by the rains; and, though both are short in quantity, the quality may be good. Rye is a middling crop. The hay cutting around town was very productive; and there is at present abundance of green food, with the appearance of plenty of all kinds in the fall.

London Prices, 15th August.

Wheat, White	82s. 86s. 88s.	per quarter.
——— Red	80s. 82s. 83s.	
——— North Country	75s. 76s. 80s.	
——— Dantzic and Koningsberg	74s. 76s. —	
Barley, Norfolk and Suffolk	45s. 46s. 47s.	
——— North Country	44s. 45s. 46s.	
Malt, Norfolk and Suffolk	72s. 74s. 78s.	
Rapeseed (new), per last of 10 quarters	39*l.* 40*l.* 41*l.*	
Rye	49s. 50s.	per quarter.
Hay	6*l.* 6s. to 6*l.* 15s.	per load.
Clover	6*l.* 10s. to 7*l.* 7s.	
Beans, Pigeon and Small	60s. 62s. 64s.	per quarter.
——— Ticks and Large	58s. 60s. 62s.	
Peas, White Boilers	84s. 90s. 100s.	
—— Hog or Grey	52s. 54s. 55s.	
Oats, Potatoe	42s. 43s. 44s.	
—— Poland	42s. 44s. 45s.	
—— Feed	36s. 38s. 39s.	
Flour, English, per sack	63s. 65s. 70s.	
——— American, per barrel of 196 lib.	45s. 46s. —	
Tares (winter), per bushel	18s. 20s. —	
Straw	2*l.* to 2*l.* 5s.	per load.

IRE-

IRELAND.

County of Dublin Quarterly Report.

A SEVERE winter here was ſucceeded by a late ſpring; but, though the weather was cold, the ſpring corns were ſown upon a dry bed, and the ground wrought kindly. The paſture graſſes being ſo late, cauſed a ſhort ſupply of fat for ſome time; and butchers' meat was higher in May and June than uſual. The markets are now better ſupplied; of courſe prices are falling. The meadows had a very unpromiſing appearance at May-day; but the ſeaſonable rains about that time, being ſucceeded by remarkably fine warm weather, has produced an abundant crop of hay, which has been nearly all ſaved in fine condition, and at much leſs expenſe than laſt year. Potatoes, where not infected with the *curl*, promiſe well; and, from the extended cultivation, the crop of them muſt be above the average. From every part of the country the moſt flattering accounts of the corn crops are received, but much depends upon the harveſt, as from the weighty appearance of the crops, wet weather might do much injury. Indeed the grain raiſed for many miles round this city will not ſtand till fully ripe in a moderately moiſt ſeaſon. This will not appear extraordinary, when the mode of farming is conſidered. Corn is but a ſecondary object; and, from the bad ſucceſs in raiſing it, thought not worth attending to. Hay is the principal object, of which weighty crops are raiſed by the force of dung. Manure is cheap, and every ſecond or third year from forty to ſixty tons of dung are laid upon an acre. The lands would be continued in this ſtate for ever, were it not that potatoes muſt be had; and though the culture of this eſculent requires much more labour, yet it is ſaid by ſome that they pay better than hay. When a meadow is broken up for potatoes, it is probably the third year after being dunged on the ſward. The potatoes are planted on the ſod, with a ſufficient quantity of dung, in *lazybeds*. As they make their appearance they are *ſpitted*; that is, the earth is thrown upon them with a ſpade out of the intervals. This is repeated twice or thrice, which buries the weeds, and renders weeding of the land unneceſſary. The field is continued in potatoes for ſome years, receiving dung every year. It is then found that the potatoes open, and turn black in the heart. It becomes neceſſary to have the land reſtored to meadow; and this is the ſtate the lands are in upon which any corn is attempted in the vicinity of this city. In ſhort, not one year in ten does the grain ripen, but rots upon the ground, and ſpoils the young graſſes. Hence ſome lay down their lands without ſowing corn; but ſeldom produce marketable hay the firſt year, as annual weeds bear too great a proportion in it. The ſecond year is generally free of annuals; and the hay has then only to be picked clean of wild parſnips, and other ſuch large growing plants, to make it marketable. It is not uncommon to pick out half a ton of the ſtems of parſnips, &c. from an acre of hay, and ſtill leave from two and an half to three tons of herbs and graſſes of all deſcriptions. Farmers from other quarters think the lands here might be managed to greater advantage; but

but the people will not believe them, ſaying, that they pay the higheſt rent in the kingdom by ſuch management; which ſhows that it is not ſo bad as foreigners think.

Markets in Dublin are as follows.

Wheat, 48s. per 2½ cwt.; Barley, 35s. per 2 cwt.; Oats, 25s. to 27s. per 1¾ cwt. Beef and mutton have fallen from 10d. to 6d. per lib. of 16 oz., and continue to look down; Lamb, 4d.; Veal, as in quality, from 3d. to 8d.——*July* 18.

NOTICES TO CORRESPONDENTS.

THE *Eſſay on Smut, and other Diſeaſes which affect Wheat*, came too late for this Number, otherwiſe would have been immediately preſented. In our next publication, room ſhall be reſerved for its appearance.

Our good friend A. S.'s *Remarks on Sheep-Smearing*, though not altogether to our mind, ſhall alſo appear. We have often thought that this gentleman is rather diſpoſed to be ſceptical on ſeveral points almoſt poſitively eſtabliſhed by the experience of centuries.

The ABERDEENSHIRE CLOWN has miſtaken our meaning. We did not reject his paper, but requeſted his addreſs, merely that ſome particulars concerning the management of the Magazine, alluded to by his friend, might be ſatisfactorily explained in a private communication. His laſt favour is under conſideration.

We thank the gentleman in Dublin who ſent us the *Remarks on Diſtillation from Sugar*, and ſhall not fail to uſe them with the firſt conveniency.

It is very probable that a part of the obſervations ſigned, '*A Lover of Truth*,' may appear in next Number; but we cannot engage for the whole of them.

Many other communications are received, for which our beſt thanks are due.

No. XXXVI. will be published on the first Monday of December. For reaſons unneceſſary to be mentioned, this Number, inſtead of being publiſhed on 15th Auguſt, as formerly intimated, was delayed till Monday, 5th September; a delay which enabled us to procure a more correct account of the current crop than could otherwiſe have been obtained.

Erratum in last Number.—Page 233, 21ſt and 22d lines from top, inſtead of *five hundred thousand quarters of wheat*, read *one hundred thousand quarters of wheat, and two hundred and eighty thousand barrels of flour.*

Erratum in this Number.—Page 332, in the 11th line from top, for 1808, read 1803.

D. WILLISON, PRINTER, EDINBURGH.

THE

FARMER'S MAGAZINE:

DECEMBER 1808.

(No. XXXVI.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir John Sinclair, Baronet.

SIR,

SIR JOSEPH BANKS, Preſident of the Royal Society, having directed, for ſome time paſt, his particular attention to the diſeaſes of wheat, I am extremely anxious to furniſh him with any aſſiſtance in my power, in the proſecution of ſo important an inquiry, to the inveſtigation of which he is ſo peculiarly competent. I have therefore to requeſt, that any intelligent farmer, whoſe crops may have unfortunately ſuffered from mildew or otherwiſe, in the courſe of the preſent ſeaſon, would have the goodneſs to tranſmit to me, anſwers to the queries which I beg leave to ſubjoin.

I remain,

Sir,

Your very obedient ſervant,

JOHN SINCLAIR.

Charlotte Square, Edinburgh,
31ſt Auguſt, 1808.

Queries regarding Mildew, and other Diſeaſes which affect Wheat, with Anſwers by the CONDUCTOR.

[The following Anſwers to the Queries regarding Mildew, &c. are reſpectfully ſubmitted to the conſideration of Sir John Sinclair, Baronet. It was thought to be the preferable way of anſwering the queries in the firſt inſtance, rather than inſerting them in one number, and anſwering them in another. Should any of our correſpondents be pleaſed, however, to furniſh additional anſwers, the ſame will inſtantly be publiſhed, ſo as the object of the worthy and patriotic Baronet may be attained in the moſt complete and ſatisfactory manner.]

Query 1. What do you apprehend occaſioned the blight, or mildew, in your crops of wheat?

Anſwer. That the wheat of crop 1808 was much injured in the end of ſummer, is an inconteſtable truth; but the cauſe of that injury is dubious and uncertain, and concerning which agriculturiſts hold different opinions. That mildew acted as the deſtroying agent in numerous inſtances, is univerſally acknowledged; but, that the defectiveneſs of the crop was, in every inſtance, attributable to mildew, may ſafely be queſtioned. Every field of wheat was more or leſs injured, yet the majority ſhowed no trace or veſtige of mildew. In fact, the general injury ſeems to have proceeded from the unhealthineſs of the atmoſphere at the time when the grain was in an embryo, or imperfect ſtate. Owing to that unhealthineſs, ſomething like abortion appears to have taken place in the parent plant, after the fœtus of the young grain was formed, which occaſioned many cups of the ear to be void, and deſtitute of ſubſtance. This deſcription will appear correct, when it is recollected that one ſide of the ear, and the whole top, were generally barren and empty, though every part had bloſſomed equally well, and promiſed to produce a numerous and healthy progeny. Even the grain which remained in ſe till it arrived at maturity, turned out to be of perfect or imperfect quality, according to the nature and condition of the ſoil upon which it was produced. Upon ſound healthy ſoils, where the plants were provided with ſtrong ſeminal and coronal roots, the grain was more deficient in quantity, than defective in quality. In ſuch ſituations, when abortion did not take place in the firſt inſtance, the young grain, from a regular ſupply of food, was enabled to reſiſt the ſtorms which beat upon and deſtroyed its weaker and worſe ſupplied neighbours. As happens with perſons of a ſound conſtitution, diſeaſe was ſucceſsfully reſiſted in many inſtances; and, though fewer grains than uſual were in the ear, even

even of the healthieſt plants, owing to the circumſtances already noticed, yet theſe grains remained in life; and, after paſſing through the proceſs of maturation, were ripened and harveſted in the moſt ſatisfactory manner.

What is here ſtated, is perhaps applicable to one half of the wheats of crop 1808. They were totally free of mildew, as was evident from the colour and texture of their ſtraw; but ſuffered in conſequence of exceſſive rains having fallen at a critical period of their growth, whereby barrenneſs in the ear neceſſarily followed. Though this barrenneſs occaſioned the produce to be ſhort, and greatly below an average, it did not impede the growth of the grain which remained in life; for the ſtraw, being healthy, allowed a regular ſupply of nouriſhment to be furniſhed from the root to the ear. Had mildew been upon the ſtraw, the caſe would have been otherwiſe. By that baneful diſeaſe, the circulation of the plant is ſtopped, in a degree proportional with the extent and ſeverity of the malady. A complete mildew prevents any further improvement, the grain pining and languiſhing till it aſſumes the ſhape of two ſkins without heart or kernel. Under a partial attack, when the parent plant has a portion of ſtrength left, the young grain thrives and advances in its growth, exactly according to the extent of its food: hence, when wheat is mildewed, ſo many different qualities of grain are obſervable, even in the ſame parcel.

From theſe ſtatements, it will appear that mildew was occaſioned, upon certain ſoils, by the influence of an unhealthy atmoſphere operating upon the plants at a period when they had become weak and ſickly. If we look back and reflect upon the nature of the weather which prevailed through July, and a conſiderable part of Auguſt, the correctneſs of the above propoſition will probably not be called in queſtion.

The month of July was exceſſively warm, more ſo than remembered by the oldeſt man living; and, from the beginning to the 20th of the month, the ſlighteſt moiſture, even in the evenings or mornings, was ſeldom perceivable. Owing to this uncommon heat, wheat plants, upon all ſoils not compoſed of clay or ſtrong loam, were in a manner at a ſtand, with reſpect to growth, being parched and enfeebled by the fierce rays of the ſun, while they were rarely cooled or refreſhed by a genial current of air; any wind which blowed for ſeveral weeks being ſo ſultry, that the evil was rather increaſed than diminiſhed by its effects. The ground, in conſequence of this intenſe ſunſhine, felt ſomething like a new burnt brick when taken from the kiln; of courſe, when the rains fell, a ſmoke iſſued from the ſurface like what proceeds from lime-ſhells when water is thrown upon them; and this exhalation of vapour continued, in a greater or leſſer degree, till the ſoil was completely ſaturated with moiſture.

Under these circumſtances, when putrid effluvia ſeemed to iſſue from every part of the ſurface, it was not to be expected that the wheat crop could eſcape from the danger with which it was encompaſſed. Apprehenſions were therefore entertained, that the fields already in a ſickly and declining ſtate, would fall the firſt victims to the peſtilence which raged in the atmoſphere; and the reſult ſhowed that theſe apprehenſions were too well founded; as, with the exception of the coaſt lands, preſerved by refreſhing air from the ſea, every field of the deſcription alluded to, namely, thoſe of ſoft loam, ſand, and thin clay mixed with peat-earth, was, in a greater or leſſer degree, attacked by mildew. Had not ſmooth chaffed wheats been generally ſown, it may be received almoſt as a certainty, that a ſingle field would not have eſcaped. We know of none of the thick chaffed or woolly-eared wheats but what fell victims to mildew in its moſt aggravated ſhape. As for the ſmooth chaffed varieties, their ſafety depended entirely upon the nature of the ſoil which they occupied, and their condition at the time when the rainy weather commenced.

Here it may be remarked, though mildew is a diſeaſe altogether unknown during dry weather, that perhaps it is only in dry ſeaſons its ſeverity is moſt ſtrikingly diſplayed, or its baneful conſequences moſt completely exemplified. In very warm and dry ſeaſons, ruſt often appears upon the ſtraw, brought on, it would ſeem, by the plants being ſtunted of nouriſhment, eſpecially thoſe occupying a ſoft or thin ſoil. Now, if humid weather ſets in when the plants are in this debilitated ſtate, and continues for any conſiderable length of time, the diſeaſe called mildew inevitably follows, as was fully proved this ſeaſon in numberleſs inſtances.

From what we have ſaid, a diſtinction may eaſily be drawn betwixt the diſeaſe called mildew, which may be conſidered as a mortal diſtemper, and the diſeaſe which this ſeaſon affected the one half of wheat fields, and which will neceſſarily affect wheat fields in every ſeaſon, when rain falls for any conſiderable length of time during the proceſs of maturation. Mildew rarely injures thin-chaffed wheats, unleſs they are previouſly hurt by ſome other cauſe. When the ſtraw is clean and healthy coloured—when the ear is yellow, and of a golden aſpect, it may with truth be pronounced, that mildew has not taken place, though barrenneſs may have occurred in the ear during the proceſſes of blooming and filling; but, when the ſtraw is black or diſcoloured, breaking eaſily into fragments when forcibly touched, and carrying an ear ſoft to the feel, and containing little ſubſtance, there is always ſolid cauſe to believe, that it has been viſited either by blight or by mildew, or perhaps by both diſorders. Blight, we conſider to be a diſeaſe which may ſeize upon the ſtalk at an early period, gene-

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rally before the bloſſoming proceſs takes place. Mildew, on the contrary, does not appear till the bloſſoming proceſs is completed, when the young grain is forming in the cups of the ear, which nature has prepared for its abode during the proceſs of maturation. If the ſtalk of the plant is attacked by mildew when in that ſtage, circulation ſtops immediately, and food for nouriſhing the young and tender grain is withheld and abſtracted. The extent of theſe evils is regulated very much by the ſtrength of the plants at the time of attack, by the nature of the ſoil on which they are produced, and not a little by the ſituation and expoſure of the field whereon they are cultivated. Generally ſpeaking, ſmall encloſures are more liable to blight and mildew than large ones; and fields with a ſouthern expoſure are more apt to receive diſeaſe, than thoſe lying in a contrary direction.

Query 2. When did mildew firſt make its appearance, and what was the progreſs?

Anſwer. The firſt violent and general rain was on the 24th July; and, in four days thereafter, it was diſcovered that the wheats were in a ſtate of danger. The earlieſt ſymptoms were recognized when a multitude of inſects took poſſeſſion of the ear of the plants, which they ſeemed to devour with the greateſt avidity. In this ſtage, mildew was not diſcernible, though a doubt cannot be entertained but that the ſeeds of diſeaſe were by that time ſown, which afterwards was to burſt forth with dreadful ſeverity. It is difficult to ſay how, or in what manner theſe inſects were produced, though it is believed that the warmneſs of the ground, when the rains commenced, joined to the ſultrineſs of the weather at the time, occaſioned, in ſome meaſure, a kind of putridity in all plants, and that inſects were thereby brought into action, ſomething in the ſame way as takes place upon every kind of decayed ſubſtance, whether animal or vegetable. But it was not upon fields where inſects were diſcerned, that mildew was afterwards found to be moſt prevalent. That fatal diſtemper was chiefly found in fields which were not lodged, eſpecially thoſe of a light ſoft ſoil, debilitated by the previous drought, and unable to bear up againſt its attacks. Few people were aware of the malady before the ſecond week of Auguſt, when the ſtraw aſſumed a blackiſh appearance; after which, the grain made no further improvement. In fact, the longer that it ſtood upon the ground, both ſtraw and grain ſeemed to become worſe, which gives cauſe to preſume that mildewed wheat ought to be cut as ſoon as poſſible after the diſeaſe is diſcovered.

Query 3. What was the state of the weather when mildew first appeared, and during its progress?

Answer. The weather was excessively wet, from the 24th July to the 13th August; and, during the wetness, there was

not much wind; so that cr[illegible] was hardly one hour dry during the [illegible]iod. The after dry weather, however, did not [illegible]rogress of mildew. The disease, by the time of its a[illegible]d got such a hold of the plant as to render it incurable, [illegible]h the fields free of mildew were undoubtedly greatly benefi[illegible] a return of sunshine and drought.

Query 4. Did you try any measures to prevent the progress of mildew, and were any of them of use?

Answer. To the best of our knowledge, no measure was attempted to prevent the progress of mildew; nor do we think that any thing can be done, to retard or impede the progress of that baneful disorder, after it has once appeared. Mildew, in fact, is a strong and violent consumption of the whole plant, which may, to a certain extent, be prevented, but cannot be removed, after the disease has taken fast hold of the patient. The only preventives which we know of are, thin sowing, and the use of the smooth-chaffed wheats. By thin sowing, the roots of the plant get a good hold of the ground, and send forth stronger stems or stalks, which [illegible] adverse weather; and, by using smooth-chaffed wheats, moisture is in some measure prevented from lodging or hanging upon the ear, while the grain is better exposed to the air, and receives more benefit from sunshine, than if placed in a cup closely covered with a thick chaff, and deprived of these advantages.

Query 5. Did mildew attack particular soils; or was it universal over your whole crops of wheat?

Answer. The real mildew attacked particular soils, such as soft loams, poor gravels, and thin clays; soils, which neither contain much vegetable matter, nor are naturally calculated for producing good wheat crops. But the general disease which occasioned barrenness, even where the smallest traces of mildew were not discernible, prevailed upon every kind of soil, with the partial exception of some of the coast lands, which, it is presumed, were saved, as already mentioned, by the beneficial influence of sea-air counteracting the effects of an unhealthy atmosphere. Even half of the inland districts were, perhaps, free of blight and mildew, though no part of them were completely filled; nor even the very best so productive as might have been expected, had the wet weather not intervened.

Query 6. Did the disease attack particular kinds of wheat; or all sorts?

Answer. None of the thick-chaffed [illegible]scaped; but few of them, comparatively speaking, [illegible] cultivated. The thin-chaffed wheats suffered in nu[illegible]stances, but chiefly

chiefly where the plants were previously stunted in their growth, by the violent drought which prevailed from 18th June to 20th July. The variety called *creeping wheat*, it is believed, met with no injury, owing to the strength of its roots. In some instances, the produce per acre of this variety doubled what was obtained from adjoining fields sown with the ordinary kind of seed, though of like soil, and equally well cultivated.

Query 7. Was your wheat sown in autumn, or spring; and did mildew attack both equally?

Answer. Nearly the whole of my wheat was sown in autumn, and the early part of winter; only a few acres being reserved for the spring season. I had very little mildew on any of it, though the whole turns out one fourth short of my usual produce. The acres sown in spring yielded wheat of good quality, though, like the rest, short in quantity. I had two fields of softish soil partially attacked by mildew. These fields blowed, or left the ground, during the April frosts, but filled up afterwards, though kept back in their growth by the tillering process. To this circumstance mildew may, with some truth, be attributed. The grain, of course, blossomed irregularly, and most of it was just set when the rains commenced; consequently, in that weak state, was easily cut off, or, at least, was subjected to injury, at a time when it had little ability to make resistance.

Query 8. Was any of your wheat of the bearded sort, which, it is said, is not liable to mildew?

Answer. I had no bearded wheat; nor would I sow that variety for a continuation of years, were I thereby to be guaranteed from mildew. This disease rarely prevails more than once in four years; therefore, the want of value in bearded wheat during the whole period, would be an excessive premium for security in the year wherein mildew appeared. The whole wheat which I had in crop was of the thin-chaffed sort, reared by that able and intelligent agriculturist Mr Hunter of Tynefield in East Lothian, which, to me, appears to be the safest and most productive of all the varieties that are cultivated. I have this year tried the *creeping wheat* on an improved moorish soil, chiefly on account of the character bestowed by those who are better acquainted with it, namely, that it keeps the ground, and is not so easily thrown out as many other varieties.

Query 9. Are your fields enclosed, or open; and were they both equally subject to the disorder?

Answer. My fields are all enclosed, though, as the enclosures are large, I am not inclined to place much stress upon that circumstance. So far as relates to my case, I may add, that the highest and most exposed fields were those that suffered most

injury; and, being of soft soil, the doctrine inculcated in a previous query is thereby supported and established, in so far as my experience and testimony can give it any weight.

Query 10. Was any part of your wheat crops exempted from disease; and if so, to what do you attribute that exemption?

Answer. Three-fourths of my wheat crop were perfectly free of mildew; and I can only attribute the exemption to the plants being in full health and vigour when the rainy weather commenced. The parts where mildew showed itself, were those of a soft soil, which, as already said, had thrown out the plants in April, and were in a languishing condition at the conclusion of the violent drought. Had the whole of my wheats been upon a similar soil, and in a similar condition, I apprehend that the like consequences would have happened to every field.

Query 11. Have you ever experienced mildews before upon your farm; and do you recollect any particular circumstances regarding those mildews?

Answer. I have repeatedly experienced mildew upon my farm, when the thick-chaffed wheats were customarily sown; but rarely since the varieties presently used were introduced. In 1782, I suffered severely from a series of rains in July and August; so did I in 1787, when I sowed only thick-chaffed wheat. But my greatest loss was in 1799, with the same kind of seed; which determined me to make a partial change; and the experience since gained caused me to give up thick-chaffed wheats altogether.

I recollect a particular circumstance in 1801, when the woolly-eared or thick chaffed wheats were completely mildewed, though rains of any consequence did not fall at the time when the mildew appeared. One evening about the end of July, a little before sunset, a thick fog came off the sea, and hung, through the night, upon all the lower grounds. The fog was dispelled next morning by a hot sun, though without any wind; after which, the stalks or leaves of the plant assumed a contracted and frigid appearance. In a day or two thereafter, a kind of black ring seemed to surround the neck of the stalk immediately below the ear, which, of course, checked circulation, and impeded the progress of nourishment from the root to the ear. Under these circumstances, the whole plant became sickly and emaciated, and ultimately furnished grain of imperfect quality, besides causing a great shortcoming of quantity, when compared with wheat of the thin-chaffed varieties which grew on the same field.

Query 12. What was done with the crop; and how does the straw answer, either as food for cattle, or for litter?

Answer. All mildewed wheat necessarily furnishes flour of inferior

inferior quality; being hardly fit for baking into loaf-bread, and only calculated for biscuit and the like. The straw is also very poor food for cattle; its nutritive powers being exhausted and lost by the effects of disease. It may do tolerably well for litter, as, owing to its softness, moisture is absorbed with more facility; but, if made into dung by itself, the heap is of less value, in direct proportion to the degree of mildew which attacked the straw, and the period at which disease had appeared.

Query 13. Have your crops of wheat been attacked by the smut, or suffered from being lodged; and to what extent?

Answer. Smut is a very different disorder from blight or mildew, and arises from a defect in the parental seed; whereas the other diseases proceed from an unhealthy atmosphere, at a time when the plant is in particular stages of its growth. If wheat used for seed is sufficiently pickled, it matters little, so far as respects smut, what kind of weather happens afterwards, or whether the crop is lodged or not. None of these circumstances occasion smut; though it is very probable that, where sufficient pickling is neglected, smut may spread more widely in an adverse than in a favourable season. A certain class of agriculturists consider pickling of seed-wheat as a branch of the quack system, and bestow something like contempt upon those who practise it. The real practical farmer will not act in this way. He judges, that a practice sanctioned by long experience is not to be renounced, merely because its effect in preventing disease cannot be satisfactorily described. He acts correctly, when arguing from effect to cause, instead of reasoning against the utility of pickling, merely because his limited faculties are unable to comprehend how it operates as a preventive against smut. It is known for a certainty, that the steeping or sprinkling of seed-wheat with certain ingredients effectually prevents the crop from being smutted; therefore, he is a foolish man indeed who refuses to use those ingredients, for no better reason than that he cannot account how and in what way they are to be of benefit.

With regard to the other branch of the query, I answer, that a part of my wheat was lodged, nay, even locked to the ground; but that, except some sprouting, it did not appear to have received any material evil from these circumstances. In fact, the standing wheat seemed most injured; and, as already said, the chief injury was occasioned by the weakness and debility of the wheats upon certain soils, which disabled them from resisting the disease.

Query 14. Did the mildew attack any of your other crops; and, if it did, had it the same appearance and effects?

Answer. Some of the oat-fields were partially mildewed; but

mildewed; but oats, being a k of t easily hurt even by excessive wetness. I n some instances, were considered to have s ed damage; but the bulk of this grain was completely out of ga before the rains arrived. Perhaps a want of sunshine and is alike detrimental to both wheat and barley, though, as the last-mentioned grain was further forward in growth than the wheat, when the wet weather set in, the loss sustained was proportionally much inferior. Had the rains been eight or ten days later in the season, it is highly probable that wheat would not have been more injured than barley. A delay of that extent would have permitted almost every field to be completely filled; and this being the case, no other danger could have arisen from wet ss except sprouting, which, no doubt, of itself is a very serious e

Upon the whole, it deserves to be ed, that the public are undoubtedly much obliged to the l able gentleman who has called their attention to a subject co lly of the first importance; and it is to be hoped that, through his active exertions, a body of information will g si icient to enlighten and instruct the farmer concern the b l healthiest seed-wheat, and the way and manner in t grain may be most successfully cultivated.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Smut and other Diseases in Wheat.

SIR,

IN the Thirty-third Number of your useful Magazine, page 16, I observe some important observations of Sir John Sinclair, Baronet, on the interesting subject, of making impartial and practical inquiry respecting the best kinds of seed wheat, and the cause of smut, and other diseases to which that grain is liable.

On this subject, particularly smut, many able pens have been employed; but, as yet, all have failed in finding out the true cause of that disease. Happily, however, a preventive has been found, * which, for a trifling expense, insures the most ignorant farmer against the baneful effects of its destructive influence. There is no doubt but that, if the real cause of smut in wheat was once found out, the necessity of pickling would be unnecessary, as it would only be requisite to remove the cause, and the effect of course would cease.

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* Pickling well with old stale chamber lee, ain with lime, is the most certain preventive that t found

I cordially agree with the worthy Baronet, that old wheat used for seed is less liable to smut than new, and particularly if old thrashed; * but at the same time I must confess, that I have never yet been able to learn from my own practice, or from information that I could rely upon, that the use of old wheat is so sure a preventive against the smut as pickling; and I presume it is generally understood, that there is a greater risk in pickling old wheat than there is in new, particularly if it stands any length of time in the sacks between the time of pickling and sowing. † Old wheat being entirely deprived of its unripe moisture, and other dampness which new wheat is liable to, sucks in, or imbibes, too much of the pickle, and thereby kills the gum in both the diseased and healthy grains, which is not the case with new; for the healthy will not imbibe so much as to hurt the gum, whilst a small portion of the pickle destroys the diseased altogether, and leaves the strong to produce a healthy offspring. Therefore, I have always practised sowing new wheat in preference to old, as I never yet could come to the resolution of sowing wheat without pickling, (except a small quantity in making out a field, which I always found to be less or more smutted, and in one other case which I will mention afterwards), and can safely say, from a practice of thirty years, that I never suffered one shilling a year from smut, although a partial ear has sometimes been found in a field after common picklings; but whenever I was at the pains of washing clean, and swimming off all the light and diseased grains, previous to pickling, such a thing as a smutted ear could not be found by the most minute examination. ‡ In performing this operation, the wheat is put into a large tub, and covered well with water, stirring it with a broom, or any other thing that will clean the wheat, and make the light come to the top, which must be carefully skimmed off, changing the water until it comes off

* It is well known in some parts of the country, that oats are more liable to the smut upon some soils than upon others; in which case, old thrashed seed is less subject to the disease than new, although the seed be the same, and both grown in one field. Why not the same effect upon old thrashed wheat? I have seen the effects upon the former, but never tried it upon the latter.

† I have known a crop totally lost by pickling old wheat; but never knew young seed hurt in the least, although I have kept it several weeks between pickling and sowing; on which account alone, I always prefer new seed, and never omit pickling.

‡ I have known some use sea-water, and others common water with as much salt as to make an egg swim for a pickle, and have several times heard of its failing in preventing smut; from which it was concluded by these, that all pickling was uncertain.

off as clean as when put on, stirring and skimming every time the water is changed; after which, pickle in the common way.

I will just mention a circumstance that happened in my neighbourhood a few years ago, which shows the singular effect of washing and pickling wheat. A farmer who occupies a small farm, had his wheat so much smutted, that he had to apply to a neighbour for clean seed His farm is a wet clay soil; and it happened that his land was ready, and the seed could not be got for a few days; from which cause, he was doubtful of losing the season, there being a great appearance of rain. In this case, a particular acquaintance of mine, and a great advocate for washing clean, as well as pickling, happened to come in the way, who advised him to take his own smutted wheat, and wash, swim, and pickle as above described, with particular injunctions to be careful in doing it well, which he did; but in sowing out the field, he wanted a small quantity, which he went and took from the same seed, and sowed it without either pickling or washing. The part of the field sown with seed washed and pickled, was, with the exception of a chance-ear, clear of smut; but, of the small quantity sown in its natural state, more than two thirds were infected. I have seen smutted wheat sown, after being pickled in the common way; but never knew any good effects, except in the case above mentioned. * From the many well attested facts the public have been favoured with respecting the utility of pickling seed wheat, I have often wondered that the practice, long ere now, has not become general over the whole kingdom.

I presume that good dressing is essentially necessary previous to pickling, when washing is omitted, by which means the unhealthy and diseased grains are separated from the strong. In this case, the pickle has only to act as an antidote against the infection of the disease, without running the risk of curing the diseased; but washing well and swimming, is the most effectual way of separating the clean from the unclean; therefore, I am of opinion that pickling, keeping for a considerable time in a heap between thrashing and sowing, and kiln-drying gently, all tend to produce the same effect, although not all powerful alike; for in all these cases it will be found, that the weak and diseased grains (which would vegetate and grow if deposited in the ground immediately after being thrashed, without being a little kiln-dryed

* I do not mention this as advising any one to sow diseased seed. I only state the fact, that every farmer may be sensible of the utility in pickling seed wheat, and be proof against the dangerous doctrine of those, who assert that pickling is an old wife's fable.

[illegible] pickled will be either effectually, or in proportion to the [illegible] and time of these operations, deprived of their germinating powers, and never vegetate at all. The same reason holds [illegible], whether the disease proceeds from an insect produced in the grain, possessing a [illegible] life, whilst the blade is growing, and the ear forming, or from some [illegible] in the grain [illegible] the time of sowing, which produces the disease in the vegetable life of the plant; for, as I have said before, the pickle kills the [illegible] grain, whilst it has the same effect in destroying the animal life of the insect.

I have often thought that if perfect, good, healthy and sound [illegible] sown, whether old or new, smut would [illegible] to make its appearance. From extensive practice [illegible] that the disease proceeds from the grain [illegible] pages, therefore will [illegible] practice, [illegible] of good seed.*

[illegible] about twenty miles from [illegible] Comparing [illegible] which place there was [illegible] market, particularly for seed wheat at the [illegible] with each other [illegible] the best seed wheat, and bring the highest price [illegible] every [illegible] market my father made it a practice to go and [illegible] of wheat every year, for change of [illegible] came from the market, without [illegible] the art of pickling [illegible] from his information, and my own experience for [illegible] that there was scarcely a smutted ear [illegible] which was taken for seed next year and [illegible] with such practical information. [illegible] myself to blame, in being the acting [illegible] to be smutted.

As to the [illegible] I cannot say much from practice [illegible] know [illegible] from what I have seen, will venture to [illegible] that smut, mildew and blight [illegible] from different causes. Smut, as I have said before, [illegible] from the seed;* mildew from the influence of the weather, and [illegible] local circumstances; and blight from various causes, namely,

* It being still [illegible] that there is a previous cause which produces the effect in the seed, and I humbly presume that some [illegible] greater [illegible] produced the [illegible] in others.

ly, the state of the land, seed not properly adapted to the soil and climate; or from some particular kind of weather at a certain period of the crop, when joined by the other causes; or from improper cropping with that grain. I have often seen injudicious cropping with wheat produce blight, and particularly if due attention was not paid to intervening crops. I have also seen two kinds of seed in one field, the one blighted and the other not; and, upon parts differently cultivated, the one blighted and the other not, though both were in the same field.

The subject being of great importance, I would like to see it investigated by some one more able for the task than myself; as the more I know of practical farming, the more I am satisfied that additional information is necessary, before we can argue with precision concerning the diseases of wheat; and as this grain is now cultivated on a large scale in almost every quarter of the island, the utility of investigation needs no demonstration. I am, &c.

A Lanarkshire Farmer.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Observations concerning Limestone and Limestone Gravel.

Sir,

You can give the subjoined observations a place in your Magazine, if you think them worthy of it; and if they are so fortunate as to meet your approbation, and that of the public, I may probably, at some future period, trouble you with the fruit of my reflections on other subjects connected with agriculture. You will readily perceive that I am not in the habit of writing for the press; but, if I am sufficiently understood, it is all I aim at.

The benefit of any substance used as a manure, must in all probability depend, in a great measure, on its solubility in water. Had the Highland Society attended to this, I think it probable they never would have offered a premium for the invention of a machine for pounding limestone, and reducing it to the ordinary size of calcareous gravel. We know that quicklime is completely soluble in water; and though, indeed, in common language, limestone is held to be insoluble in water or in air, yet experience seems to prove, that it does undergo a gradual, but very slow decomposition, from the united action of both. I am not ignorant that quicklime will gradually saturate itself with carbonic acid, if exposed to the atmosphere, when it will no longer be soluble in water; and that, even after it has been dissolved in water,

ter, it will, by attracting the same principle, separate itself from that combination, in the form of an insoluble compound; but, from its solubility in water, a great part of the quicklime will, in the first place, be much more intimately diffused through the soil; nor will it, when ploughed into the ground, be speedily saturated with carbonic acid, as its communication with the air will be in a great measure cut off. I am also aware, that limestone gravel may enter into combination with many other substances it may meet with in the soil; but quicklime has this advantage, I suppose, in at least an equal degree, besides the great advantage mentioned above. * We also know, that all substances enter into combination with others the more readily, in proportion as their parts are more intimately divided. No mechanical action can divide the parts of limestone in any degree equal to what takes place on slaking lime properly burned. And this leads me to make a remark of much practical utility, which, so far as I know, has escaped writers on agriculture, and farmers in general, viz. that, supposing a farmer to be situated near two lime quarries, the stone of one of which affords, by analysis, 80 *per cent.* of carbonate of lime, or pure limestone, and that of the other 98, and putting the difference of carriage out of the question; or, supposing both to be laid down in heaps upon his field, at a price in exact proportion to their different qualities, that is to say, when 100 bolls of the one should cost ninety-eight half-crowns, 100 bolls of the other should cost only eighty;—yet would the purchaser of the inferior lime be a very considerable loser; because coarse limestone, when burned, does not fall, upon being slaked, into nearly so fine a powder as that of a superior quality, and cannot, therefore, so readily enter into combination with the different principles in the soil. If it could be supposed to do so, however, in any reasonable length of time, it would in some respects appear to be little more than the loss of the interest of the money; but the truth, I am afraid, is, that a great part of it is buried below the reach of vegetation, before it operates at all. Had farmers been in the habit of attending to the *rationale*

* Will not quicklime combine with animal and vegetable oils, to form a compound something of the nature of soap soluble in water? and might not advantage be taken of this circumstance, in forming composts with such substances as the refuse of whale blubber, &c.? and may not its tendency to combine in this way with the oleaginous particles it may meet with in the soil, be one cause of the fertility induced by it? At any rate, nothing appears to me more ridiculous, than attributing all the effects of lime to a stimulating power, as I am convinced it operates, of itself, as a powerful manure, both alone and in its combinations.

found of great advantage to those parts of the country wher limestone gravel is found, if a cheap method of burning or cal cining it could be pointed out. Living some years ago in a pa of the country where limestone gravel as well as limestone wa abundant, and observing that, when peats were used as fuel, th limestones were broken proportionally small, on account of th less intensity or continuance of the heat, and knowing, *a prior* that the more intimately any substance is divided, the more powe fully will it be acted upon by any chemical agent, it occurred t me, that many poor tenants in that part of the country (a High land district) might avail themselves of a knowledge of this cir cumstance, in all probability, to supply themselves with a goo manure at a very cheap rate, by burning the limestone gravel i kilns built of feal or sods, either with sods, or such coarse peat as were unfit for burning limestone, and driving out the whol (kiln and all) upon the field as a manure. It occurred to me fur ther, that as the best method of improving heathy or rough swar is by paring and burning, if the limestone gravel were spread up on such ground a year previous to the operation, it would be come, in that time, by the action of the rains, and the progres of vegetation, so intermixed with the roots of the plants, as no to be separated from the turf in the different processes of parin and drying, and that the heat produced in burning the heaps, i made pretty large, would probably be sufficient for calcining th limestone gravel, or at least the greater part of it. I communi cated my opinion upon the subject at the time (the autumn o 1802) to a gentleman whom I thought a good deal interested i

found to answer; and, of course, that it might be productive of great advantage in many situations. * A. B.

Kincardineshire, Dec. 25. 1806.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On a Disorder which affects Cattle.

SIR,

IT would be doing me a favour, if some one of your correspondents, who have studied the diseases of cattle, would favour the public, through the medium of your valuable Magazine, with some account of the cause, nature, and cure of a disorder, which, for these last two years, has affected several of my young cattle of two and three years old, and for a description of which I have in vain searched in some of those books which treat professedly of the diseases of cattle. It would seem to be seated in the glands of the throat, and appears in one or more very large hard tumours, which never come to suppuration, but are filled with a solid substance very much resembling the kernels at the root of a bullock's tongue. They do not appear to occasion any pain or inconvenience to the animal, except an itchiness and desire to rub, which still further disfigures it, by often breaking the skin, and exhibiting the throat all bloody. Indeed, those of mine who have been thus affected, have continued to thrive and fatten equally well with the rest. But it must be obvious, that they are totally unfit to appear with others in a market. Several of my neighbour farmers have suffered in their stock by the same complaint, and are equally ignorant with myself, and desirous to be informed of the proper mode of treating it. I am, &c.

October 31. 1807. A READER.

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* Calcareous gravel, wherever it is found, might certainly be calcined with coarse peats, brushwood, or any kind of furze; as, though a certain intensity of heat may be necessary, yet it would require to be only of moderate duration, (see Watson's Chemical Essays, vol. II.) This would particularly be of much consequence when it was to be carried to any distance, as a much smaller quantity would be necessary, and the weight of that quantity would also be much diminished. As it could also be spread and ploughed in without being slaked, it might be of advantage, in stiff soils, not only by dividing and pulverizing them by its mechanical action, but also by absorbing part of their superfluous moisture.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Remarks on the View of Perthshire Husbandry.

SIR,

YOUR correspondent, on Perthshire Husbandry, (Vol. VIII. p. 425.) seems to be a sensible man in his own profession; but, when he ventures beyond it, he certainly lays himself open to criticism. Some of the remarks that occurred to me, upon reading his Essay, I committed to writing; and if you think them worthy a place in your Magazine, they are very much at your service.

He says, 'It seems to be the opinion of some people, that the climate of Scotland has become much less genial than formerly; and, in support of this hypothesis, they argue, that many kinds of vegetables have grown in situations where they cannot now exist. For instance, the remains of forests are discovered on hills, sea-shores, and under mosses, where the exposure is such that a tree will not now thrive; and ploughed ridges are found in many places so elevated, that no species of grain presently cultivated will ripen. These are well authenticated facts. But, without recurring to periods so remote, most old people assert, that, in their youth, the summer season was perceptibly warmer; in particular that, in the month of May, the heat was commonly so intense that farmers were obliged to plough in the morning, so as to have their work over by eight or nine o'clock.' This gentleman seems to have got into a cant very common among people now-a-days, of a general deterioration of the climate of this country, and of a sad decay in the morals of the nation. Were credit to be given to these croakers, many of the present generation may live to see this island wrapt up in the snows of eternal winter, and the inhabitants themselves abandoned to every species of vice and debauchery. This is all very well in the way of declamation; but let us try the hypothesis by the sober test of reasoning. This gentleman ought to have recollected that, as the assertion of a deterioration of climate is broad and unqualified, the proof adduced in evidence should have been equally so. If, in order to prove the fact of a hundred men being killed in an engagement, an eye-witness states that he saw fifty of them fall, his evidence is certainly true to the extent of that number; but the other half may, for aught he knows, be still alive and in good health. In the present instance, your friend makes an assertion which comprehends the whole of the island; and therefore, the effects of this supposed growing rigour in the climate ought to appear in every district of the country, in every acre of that district. But his

his proof, instead of being as broad and unqualified as the fact itself, is in the highest degree partial and local. The very symptoms themselves, on which he rests so improbable a theory, may be accounted for satisfactorily in another way, and may be traced to causes of a different description altogether. Even supposing that 'the remains of forests are discovered on hills, seashores, and under mosses, where the exposure is such that a tree will not now thrive,' still, it does not necessarily follow, that our climate has become less genial and warm. It may no doubt be true that, in the situations alluded to, trees will not, from particular circumstances, thrive in the present day; but still the climate, upon the whole, may be at least as genial as heretofore. Perhaps, in these situations, the exposure, from some local cause or another, has been rendered less friendly to the growth of trees; but still they may, and we all know that they do grow in other places, as well, if not better now, than they ever did in former times. Giving his fact of an increase of rigour all the credit it can possibly demand, still nothing more is established than an increase of rigour in these particular instances. The very circumstance of an accumulation of moss in the neighbourhood of the site of an antient forest, is, of itself, a sufficient reason why trees will not now thrive in that quarter. The effect, however, of these mosses is but partial and limited in its operation. But, even admitting that the vestiges of forests have been discovered upon the tops of hills and elsewhere, he ought to have furnished your readers with a proof of these plantations having been attempted in these places now, and that they have never succeeded. When a country is wholly covered with wood, trees will, by reason of the superior shelter, grow everywhere. But is that fact any proof of a greater warmth of climate in that age of forests? America, when first discovered, was one vast forest; but surely, in proportion as the woods came to be cut down, and the ground brought under a refined cultivation, the climate will be in a progressive state of melioration. Your correspondent does not mean to insinuate that the mosses, under which forests are said to have been discovered, were mosses before the existence of these forests. The fact of the matter is, that the mosses are the result of the fall of these woods; and a coldness and humidity arising from the surface, is the reason of trees not now growing in their neighbourhood. Their thriving in the bosom of the mosses themselves is totally out of the question; and, had the mosses existed previous to the forests in former times, this gentleman would not now be lamenting their decline and fall.

It is very true, that ploughed ridges may be seen in very elevated places; but still, it does not follow that grain will not now

thrive in so high a latitude. I admit the fact, but deny the legitimacy of the inference. In the infancy of agriculture, farmers, from the circumstance of a want of manure, were naturally led to plough up every field, however elevated, to which that instrument could have access. Having little or no artificial dung to lay upon the land, they were under the necessity of cropping every inch of ground that had been lying in pasture; and it was afterwards allowed to remain in that situation, until the bountiful hand of nature had restored it in some degree to a comparative state of fertility. Indeed, this wretched mode of farming is very common in some of the worst districts, even in the present day. Under better management, the farmer now ploughs no more than what he has dung for; and the remainder lyes in pasture. By this means, the plough is confined to the low-lying land; and the tops of hills are never ploughed at all. It is because the hill ground is not adapted to the growth of corn *so well* as the low ground, that it is not kept under tillage, and not because corn will not grow *at all*. Some old stupid people are still in the habit of ploughing the high ground; but this fact, instead of proving a deterioration of climate, merely shows that they are bad farmers. Your correspondent would seem to infer, from a state of bad farming, the fact of a more genial climate; and a more rigorous atmosphere, from an improved state of agriculture. One would think, however, that if any inference can be drawn at all, it ought to be quite the reverse. But the truth is, that it goes merely to establish a fact in the progress of agriculture, and nothing as to the state of the climate.

It is really wonderful that a person, with the smallest pretensions to common sense, would appeal to the feelings of old people, men or women, no matter which, in support of a particular fact. There is nothing upon which so little dependence can be put as the sensations of individuals; and, on the other hand, nothing so fixed and determined as the laws of nature. Old people look back upon the past with regret, in proportion as they advance towards the evening of life; and young folks, upon the other hand, contemplate the future with a pleasure proportionate to the length of the career they have yet to run. The views of both are regulated, not by a deliberate consideration of the thing itself, but precisely as they happen to feel at the moment. It would therefore be strange that the phenomena of the physical world, whose appearances are so regular and systematic, should be tried by a standard so capricious and inconstant as the feelings of the human frame.

The only legitimate method of ascertaining the fact of an increase of rigour in the climate of this country, is by a series of meteorological

meteorological observations for the space of a century back. By this examination, the thing is put to the test by its very self; and if it does appear that the climate has become less genial than heretofore, we must, of course, admit the fact. All the appearances, however, stated by your correspondent, and all the arguments maintained by him and others, may be explained upon principles which do not suppose an increasing rigour; and therefore, they are inconclusive. With an increasing cultivation all over the world, upon which heat and cold so much depend, the probability is that the climate of the country is in a progressive state of improvement; and nothing but the most positive evidence to the contrary ought to have the smallest weight upon the question. This proof your correspondent has not produced; and therefore, his case is not made out to the satisfaction of those who at all look for accuracy in matters of reasoning.

Your correspondent details a variety of causes for the late rise in the rent of land; but, after all, he does not think they are sufficient to account wholly for the effect. 'It can only be accounted for, (says he) by the high price which grain has maintained for several years in the north of Europe, and by a greater number of people possessing capital sufficient for stocking a farm than formerly, who can turn to no other employment.' It does not seem to be attended to, by people who pretend to talk upon the subject, that the price of grain in England must, in some measure, be influenced by that of Poland, or any other country in Europe. We all know that the grain market of London, Liverpool and Glasgow, reciprocally act upon each other; and that there exists, at all times, a relative cheapness or dearness among these different markets. The same thing takes place, more or less, over all the different markets of Europe, and of the world. The law of gravitation in the physical world is not more true than that of a level in the price of grain. Upon this principle, therefore, if the price of grain be in England as 3 to 1 in Poland, at any particular period, say in the 1783, it will be as 9 in the 1808, if the grain in Poland rises to 3. These numbers are used in an arbitrary way; but they will sufficiently illustrate the principle, and establish the truth of it, beyond the shadow of a doubt.

To those who at all reflect upon the subject, the price of grain, or, in other words, the value of money, is always in proportion to the wealth of the particular country of which we may be talking at the time. By the wealth of a country I mean its industry: For example, Great Britain is a rich country; and Spain, though possessing all the mines of Mexico and Peru, is a poor one. Grain, agreeable to this remark, is therefore dearer in this island than in that part of the continent of Europe. This fact is true all the world over;

and, were it not abundantly obvious, I would trouble you with a variety of reaſons in explanation. Now, if, at a particular degree of induſtry in Spain, the price of grain be in that country 1, it will, at leaſt, double the price when the induſtrial thermometer riſes to 2. This riſe, again, in the price of grain in Spain, acts upon the Engliſh market; and, according to the foregoing principle, elevates the price of grain there. In proportion, therefore, as grain riſes in Spain, or in other parts of Europe, it muſt neceſſarily riſe alſo in England.

As the induſtry of the world is daily upon the increaſe, notwithſtanding of the obſtacles which at preſent weigh it down, the value of money all over the globe will depreciate, as it has already done in this country. It is our induſtry alone to which the fall is to be attributed; and the ſame reſult will be as extenſive as the univerſality of the cauſe. If the nations of Europe, inſtead of cutting one another's throats, would apply themſelves ſeriouſly to the cultivation of the arts of peace, the induſtry of the world would be increaſed a hundred fold; and the effect I have juſt now mentioned, would take place to a degree, of which, at preſent, we have not the ſmalleſt idea. From this univerſal induſtry would reſult a correſponding depreciation in the value of money over Europe; and more remarkably in England, in proportion to the ſuperiority of its induſtry. In the activity of theſe principles, it is not difficult to diſcover a long perſpective of a great and indefinite riſe in the rent of land in this country, ſufficient to lull aſleep the fears of the moſt deſponding. Your correſpondent ſeems to have a confuſed idea of what I have juſt been ſaying; but the late high price of grain in the north of Europe, inſtead of being temporary, as he ſuppoſes, is as permanent as the cauſe which gave it birth.

The other cauſe of the riſe of rent mentioned by your correſpondent, is moſt juſt, if it were properly expreſſed, and unaccompanied by an after-obſervation of that gentleman. Inſtead of attributing the effect to a greater number of competitors, with more capital than formerly, had he accounted for it by the exiſtence of the capital ſimply, he would have been ſpeaking as accurately, and with more ſimplicity. An augmentation of capital ſuppoſes an increaſe in the number of perſons poſſeſſing it; and when an idea can be expreſſed by one ſentence, it is more philoſophical than to do it by means of a greater number. But this is not the only error into which he has fallen. He not merely ſuppoſes that a greater number of competitors have come into the field, but that they had not the power to go into any other employment than that of farming. Were this the fact, it would prove that the late riſe of rents has been unnatural, and therefore will

not

not laſt. But this gentleman ought to know, that, if the fact intended to be eſtabliſhed is of importance, the proof of it muſt be equally complete, to ſatisfy the underſtanding of a rational reader. He brings, however, not the ſmalleſt evidence in ſupport of the aſſertion. He ought to have known, that this will not paſs among people who uſe the little underſtanding that God has given them; and that it is as eaſy for another to make an aſſertion directly in the teeth of it. The one would go, of courſe, for the other, and the fact be as doubtful as ever. Were the aſſertion of your correſpondent well-founded, we would have the abſurd anomaly of a compulſory inveſtment of capital into a particular branch of trade produced by the voluntary act of individuals. Nothing, however, but force would make people embark their capital in a trade which muſt be ruinous, from its being previouſly overſtocked. To ſay that a compulſory act is the voluntary work of individuals, is not more abſurd than to contend that Bonaparte's conſcripts are compoſed entirely of volunteers. Beſides, I never heard till this moment that all the employments in Scotland were full of hands; and that capital can find no room for its activity but in agriculture. In the northern part of the iſland, at leaſt, hitherto in leading-ſtrings, there are a variety of profeſſions in which a man may find employment. Was this gentleman a merchant or manufacturer, he would know that capital was a very ſcarce article, and one of the greateſt difficulties he would have to contend with. But, even ſuppoſing that agricultural capital was overabundant, it does not follow that no advantageous uſe can be made of it. Some neighbouring manufacturer may very probably be in want of a loan of 10,000l., and will give this capitaliſt ſatisfactory ſecurity for the uſe of it. Until, therefore, every trade has an overflowing capital, the monied agriculturiſt, if he declines being a manufacturer himſelf, may employ it to advantage upon a loan, and become one of that claſs of people in ſociety called monied men. Hitherto, this ſort of gentry have been abundantly ſcarce in this country;—*rara avis in terra.*

That landlords may have been ſurpriſed, and agreeably too, at the late riſe of rents, may be very true; but it proves nothing more but their ignorance of the cauſes upon which this riſe depends. Proprietors have had their nights of ignorance, as well as their tenants. But as the cauſes of the riſe come to be ſtudied, this fooliſh wonder will very ſoon ceaſe, not merely among the landlords, but alſo among the cultivators of the ground.

It is ridiculous for your correſpondent to ſay, that an induſtrious tenant could not make money upon a farm which was, upon his leaving it, let at five times the rent. If he really was induſtrious, he muſt have been a born idiot, and was certainly in-

tended, by education and habits, to be nothing more than a day-labourer. A man may be a very induſtrious farm-ſervant, who would make but an exceeding ſorry farmer. In the one, mere manual labour is all that is required; but, in the other, induſtry, knowledge and capital muſt be combined. Indeed, it is to the union of theſe three in the perſon of the modern farmer, that almoſt the whole of the late improvements in agriculture are to be traced. The farmer of former times may have been as induſtrious as thoſe of the preſent day; but much of it was waſted by a want of knowledge, and much of it lay aſleep by a lack of capital. By means of induſtry, land may no doubt be ploughed; but knowledge alone will tell the farmer that wheat and potatoes is the moſt productive mode of managing it; and capital alone will enable him to accompliſh the work. The poor and ignorant tenant of your correſpondent keeps himſelf, and all who have the misfortune of being connected with him, in a ſtate of beggary and wretchedneſs; while the kind of farmer of whom I am ſpeaking, poſſeſſed of capital, and guided by enlightened views of his profeſſion, enriches both himſelf, his landlord, and his country.

'The great number of candidates (ſays he) which appear at every opening, enables the landlord to propoſe very unreaſonable conditions of leaſe, without deterring offerers; and theſe are ſometimes of a nature much more oppreſſive to the tenant than beneficial to the proprietor, as is the caſe with every kind of carriage ſervice, and many of the inſtructions as to the mode of cropping uſually impoſed; and, in ſome inſtances, conditions having a fraudulent or diſhoneſt tendency are inſerted in leaſes,' &c. In arranging matters between landlord and tenant, it is not very eaſy to manage the negotiation, ſo as to attend ſufficiently to the intereſt of the former, without, at the ſame time, injuring the latter. It is a buſineſs that requires a more enlightened and liberal mind, than what falls to the lot of moſt people to whoſe charge the letting of land in general is committed. However the illiberal and ignorant may ſmile, it is moſt true that the intereſt of the landlord and tenant are identically the ſame; and that whatever injures the one, will prove equally pernicious to the other. If, by reaſon of any abſurd or unreaſonable conditions in the leaſe, a tenant be prevented from improving the land, and of courſe enriching himſelf, the landlord is ſtill a greater loſer, on account of the more permanent intereſt he has in the ground. When, therefore, they do occur in leaſes, they are to be attributed more to the ignorance of the land-ſteward, than to any inclination upon the part of the proprietor to oppreſs the tenant. This principle, of mutual advantage and diſadvantage both to landlord and tenant, is now pretty generally admitted. But there is another

r which is not equally obvious, but of equal importance, in economical point of view. It is at preſent the opinion of moſt ple, that one man cannot make money but at the expense his neighbour: for example, if a tenant retires, at the expiry a nineteen years leaſe, with 2000l., it is moſt charitably infer- that he has cheated his landlord to that extent, or, at leaſt, t the money ought to have gone into the pockets of the ſuper. This idea is not leſs ill-founded, than manifeſtly illiberal. s an old adage, that all trades muſt live; and it is equally true, t there is a profit or advantage that appertains in a peculiar nner to every buſineſs or profeſſion in life. There is a profit onging to the tenant,—a fair remuneration for his trouble,— ich the landlord has no more right to than the tenant has to land itſelf. According as the tenant manages his affairs, this ofit will be greater or leſs. If he retires with 10,000l., the re- ation of this ſum is owing to his exertions upon a ſubject ich otherwiſe would have produced, perhaps, little or nothing him or to the landlord; and if he makes no money at all, the dlord is not a whit richer upon that account. The landlord is ther made richer by the lazineſs of his tenant, nor poorer by induſtry. It is a pity that this principle were not better un- ſtood, and more generally acted upon; for, in that caſe, it uld do more good to mankind than all the political theories en- dered by revolutionary frenzy.

Upon the principle I have juſt been ſtating to your readers, I prehend that the unreaſonable conditions inſerted by ſome land- ds in leaſes, is not owing to the number of candidates, but to ir ignorance of their real intereſt. I can underſtand very well, t a competition among bidders may raiſe the rent of a farm; I cannot ſee how it can induce a landlord to introduce ſtipu- ions prejudicial to himſelf. Ignorance, that ſeldom underſtands lividual intereſt, may ſuggeſt unreaſonable conditions; but com- ition among offerers cannot have this effect. Theſe abſurd ſti- lations will not deter offerers altogether; it will merely keep od tenants aloof, and depreſs the rent of the farm below its na- al value. If this depreſſion was always in the *ratio* of the un- ſonableneſs of the conditions, there need be little lamentation the poor tenants; but the misfortune is, that while the occu- r of the land is injured by his landlord, he is not equally bene- d by the fall in the rent.

It is a pity but a more liberal underſtanding exiſted between dlord and tenant than what happens to be at preſent. No ar- ment is neceſſary to prove, that nothing can be more injurious the landlord than a ſtate of degradation upon the part of the ant; and experience teaches us, that the rent of land is high,

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in proportion to the ſtate of equality between theſe two orders of men. The preſent relative footing is a remnant of feudal barbariſm; and nothing but a ſenſe of its being contrary to the intereſt of the landlord, will induce him to better the ſituation of the tenant. All ſervices, of whatever kind, depreſs the moral character of the cultivator of the land, and at the ſame time are injurious to the landlord in a pecuniary point of view. Theſe, however, are gradually dying away; and very probably, in the courſe of twenty or thirty years hence, no veſtige will remain of their preſent exiſtence.

I can conceive nothing more abſurd than an attorney upon an extenſive eſtate, with a variety of ſoil, and great difference of climate, forcing one form of leaſe down the throats of three or four hundred tenants. One farm may happen to be better adapted for paſture, another for turnips and barley, and a third for wheat and potatoes; yet this worthy gentleman, with a perfect knowledge of their oppoſite qualities, would have them all bound to the ſame rotation of crops. If this be hurtful to the tenant, it muſt be equally ſo to the landlord, and to the country, in a national point of view. Independent of this ignorance upon the part of the attorney, this eternal interference is the more galling and teazing to the tenant, in proportion to his real worth. The feelings of an individual are, to a certain degree, ſuſceptible in proportion to his worth, and *vice verſa*: ſo that this mode of management has the effect either of keeping at a diſtance all thoſe who would be an acceſſion to the landlord, or of degrading thoſe who may be tenants already. For my own part, I entertain a much better opinion of the judgement of a good farmer, than of my own pretty ſelf; and am therefore inclined to leave much to him. By bad management, he may no doubt injure me, but he muſt totally ruin himſelf; and I therefore think, that until the third or fourth year of the end of the leaſe, he may be left wholly to his own diſcretion. About this time, however, his intereſt and mine, which had hitherto been one, now become ſeparate, from the circumſtance of his being about to leave the farm; and I muſt begin to look ſharply after him. Up to this period, he may be left to his own prudence; but, in order to keep the farm in a progreſſive ſtate of improvement with the change of tenant, he muſt now be reſtricted in the quantity of ground he may have under white crops. By this means, the farm will be left in as good condition as the tenant is ſuppoſed to have got it; and the landlord is entitled to not a farthing more. The payment of the rent is all that he was entitled to over and above this reſtriction in regard to tillage, towards the end of the leaſe; and this he has got. Every ' ing elſe in the ſhape of ſtipulations or conditions, is not a whit

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:tter than baronage ſervices, which injure the tenant without :nefiting the landlord.

Whatever is indefinite muſt, in its effects, be to a certain de-ee unintelligible. If a tenant be bound to pay 100l. *per annum* ır a particular farm, the obligation is moſt obvious; and, in com-g under it, he muſt, *a priori*, have known its full force and im-ort. On the other hand, if he undertakes to perform a variety f ſervices that are undefined, he cannot be ſenſible of the extent f his undertaking; and, inſtead of theſe being perhaps but trifles, ıey may turn out to be ruinous in the extreme. His ſtrength ıay be waſted in the performance of things which are not of the nalleſt uſe to the landlord, inſtead of being directed to the ad-ıncement of his own intereſt. The obligations, therefore, upon ıe part of the tenant ought to be limited ſimply to the payment f rent, which, notwithſtanding of a ſenſeleſs cry of late years, it the right and intereſt of the landlord to raiſe as high as he can.

Though no lawyer, I do not think that the law would ſanction clauſe of irritancy, in the event of a tenant becoming bankrupt, rovided the rent is continued to be paid. He might have been a ankrupt before he entered into poſſeſſion; and ſurely the landlord as no right to complain that the poor devil has not bettered his ondition in the work. If he continues in the management of the ırm, and performs all the conditions of his leaſe, I do not ap-rehend that the landlord is entitled to demand more. If the ueſtion was merely between the landlord and tenant, very proba-ly the irritancy would take place upon the principle of a bargain eing a bargain; but, in reference to third parties, I ſhould rather hink that their intereſts cannot be affected by ſuch a clauſe. The caſe of the excluſion of aſſignees and ſubtenants is not ſtrict-y analogous to the preſent; becauſe the clauſe, in regard to it, is s well known to all and ſundry as an infeftment upon land. The ther is, no doubt, ſometimes inſerted in leaſes; but, from its rivacy, ought not to affect the public, to whom it is very likely nknown.

The right of landlords to exclude aſſignees and ſubtenants is, in ny humble apprehenſion, undoubted; but its policy appears to ne queſtionable. For the reaſons already ſtated at great length, am of opinion, that the argument between the contracting par-ies ought to be as full and ample during the leaſe upon the one, s upon the other part; or, in other words, that the tenant, while n that character, ſhould be as much the proprietor of the land as he landlord himſelf. The excluſion of aſſignees and ſubtenants, vidently encroaches upon this right of abſolute, though tempo-ary property; and deſtroys the footing of equality upon which I hink they ought to ſtand. In the infancy of agriculture, I am aware

aware that, from the very limited choice landlords it was neceſſary, for the ſafety of the former, t tion to exclude. What, however, may be prope may be no longer neceſſary at another; and, now ſcarcity of farmers of knowledge and capital, thi be abandoned without fear of loſs. But, althou of aſſignees and ſubtenants may be injurious to the ſtill third parties have no right to complain of a c fully inſerted in leaſes. The commonneſs of it is that the public cannot plead ignorance of its ex they do give credit to the tenant notwithſtanding, t ſelves alone to blame. There is certainly nothin of a diſhoneſt tendency in this clauſe, though p upon the part of the landlord.

'Within theſe few years (ſays he) landlords, lands, have again adopted ſeveral of the old diſgr of villanage which had been diſcarded for twenty y as, paying kain, and driving fuel. They likewiſe o to inſure the ſteading, and pay a moiety of the a Of late, too, they have reverted to the old method of their rent in kind.' Your correſpondent is her much by the feelings of the mere tenant, who lo lords as doing nothing but grinding the faces of There does not appear to me, however, any diſg either paying kain or driving fuel. They are merel rent in a particular ſort of kind, inſtead of money; cupations themſelves, there is ſurely nothing diſ not, however, approve of either of the two ſervices. my humble opinion, childiſh in the extreme, upon landlord, and vexatious, on account of their min tenant. It would be much better for all parties, i upon adjuſting the terms of the leaſe, was to value kain hens, or the carts of coals the tenant is to d counting them into money, add it to the rent. H would get payment of the kain, and of the carria in a way equally valuable to himſelf, and far m the tenant. For my part, I cannot ſee the ſmall it tenant being taken bound to inſure the ſteading the farm, and paying a part, or even the whole o It is no doubt true that, in towns, landlords, and t ſure the houſes; but really it is a matter of moor the two takes the trouble. If a landlord aſks 100 particular farm, and pays 5l. *per annum* as the in ſteading upon the premiſes, his rent is in that ca the nominal rent be 95l., and the tenant pays th

ſides, the caſe is exactly the ſame. It is a matter of total indifference, therefore, whether the landlord or tenant pays the inſurance. If the former, then the tenant pays a greater nominal rent to the landlord; and if the latter, then he pays a leſſer. In both, however, the landlord gets the ſame rent, and the tenant pays the ſame ſum.

Your correſpondent ſeems *enraged* at landlords making part of the rent payable in grain convertible at the county fiars; but upon what principle, I confeſs, is not apparent to my feeble underſtanding. The rent of the land is part of its produce; and ſurely there can be no hardſhip in paying to the proprietor a certain proportion of what grows out of it. The land does not produce gold or ſilver, but grain of ſome particular kind or another; and, therefore, the natural and legitimate return for the uſe of it for nineteen years, is a certain part of its produce. It may be, that a tenant, with a farm of a thin, gravelly ſoil, may be wrong in becoming bound to pay the whole of his rent in wheat. If the land be too light to carry ſo weighty a crop, it is ſilly in him to come under an obligation to deliver a commodity which forms no part of the produce of the land. It is not more abſurd than a tenant of hill ground becoming bound to pay the landlord a certain number of bolls of meal. It is not, therefore, againſt a grain rent that your correſpondent ſhould expreſs his diſapprobation, but againſt the kind or *ſpecies* of grain that is made payable out of the particular farm. *

'The general method (continues he) of bargaining for farms is by private offers; but ſome landlords expoſe them to public auction, reſerving a right to ſelect the tenant from a number of the higheſt bidders; and, lately, an inſtance of a landlord taking the benefit of both ways occurred.' The combatants who range themſelves upon the ſide of landlords, and thoſe, again, upon that of tenants, each puſh their arguments to an extreme. Upon a little examination, it will be found, that the truth, as is generally the caſe, lies in the golden mean. The right of the landlord to expoſe his land in any way he pleaſes, ſeems to me undoubted; but, in adopting a particular mode in letting his ground, he may not conſult his intereſt. Unqueſtionably he may let his land privately; he may expoſe his farms to public auction, and reſerve the right of ſelection here condemned. If ſuch a mode be injurious to the intereſt of the tenant, he is under no obligation to make an offer. The evil, if it be one, contains within its own boſom a ſovereign remedy. But, although I advocate the right of the landlord to adopt any mode he pleaſes of letting

Note.—If the landlord accepts of the *ipsa corpora*, our correſpondent may be in the right; but not, if the grain is to be converted at the rate of the county fiars. N.

letting his land, yet I at ſame time admit, that he does not conſult his intereſt in every caſe. I ſhould apprehend, that the more a tenant is upon an equality with his landlord, he will give a higher rent; and therefore, *per contra*, he will offer the leſs the more the landlord reſerves to himſelf. I do not approve of letting land in the way of private offers; becauſe the landlord is not taken bound to accept of the higheſt offer, but may make ſuch a ſelection as he pleaſes. In my humble apprehenſion, public auction is the leaſt exceptionable, and it is the way in which land is bought and ſold every day. If, however, this mode be adopted, the landlord ought to be under the neceſſity of receiving the higheſt offerer as tenant, provided he be able and willing to perform his part of the articles of roup.

Your correſpondent alludes to a certain proprietor who grants leaſes only of eleven or fifteen years endurance. To form a judgement of the propriety of this meaſure, he ought to have mentioned to your readers the ſtate of the farm, and thoſe numerous circumſtances upon which rent and the length of leaſe depend. If the lands be lying in a ſtate of nature, or exhauſted by overcropping, and, of courſe, require thoſe improvements which ſuppoſe time for their accompliſhment, a leaſe of the endurance alluded to is totally out of the queſtion. Upon ſo ſhort a tenure, nothing can be attempted, becauſe nothing can be reaped before the expiry of the tack. If, on the other hand, the ground happen to be at the higheſt pitch of improvement, and the rotation reduced to a four-courſe ſhift, the neceſſity of a long leaſe is not quite ſo apparent. Upon this ſuppoſition, no further advance of capital is neceſſary than the price of dung and labour requiſite for the raiſing of wheat. At the end of the leaſe, the tenant leaves the land in the ſame predicament he got it, after having drawn from its boſom all that he had thrown into it. His whole expenſe was limited to making it capable of producing grain, and each year's crop ought to pay him for his labour. Being merely a farm-labourer, if he be paid at the end of each year for his trouble, he is reimburſed for all that he has expended. Although, however, the tenant, in this particular inſtance, has no right to complain of the ſhortneſs of the leaſe, it does not appear to me that the landlord is ſo great a gainer by this policy as he conceives himſelf to be. The late riſe in the rent of land has led ſome landlords to grudge a nineteen years leaſe, not remarking that the one was in a great meaſure owing to the other. Had the leaſe been ſhorter, the riſe of rent would have been leſs. By keeping a ſhort tether, no doubt, the landlord has it in his power to raiſe his rents *oftener* in the ſame number of years; but it does not follow neceſſarily that he raiſes it, in the long run, *higher*. In three of ten years each, the landlord has it in his power to raiſe the

the rent three different times, and from the original rent of 100l. to 600l. perhaps. In a thirty years leaſe, again, the landlord can exerciſe his prerogative only once; but, at the termination of that period, the rent may riſe to 1000l. Properly ſpeaking, and if both parties can calculate, three leaſes of ten years each ſhould put into the pocket of the landlord exactly, and no more, than what another of thirty years endurance would do. Although, however, ſtrict calculation be out of the queſtion, it will probably be found that the landlord, in both caſes, gets nearly the ſame income for a thirty years leaſe as for three of ten years only.

Leaſes for life appear to me improper; becauſe it makes the return of a *certain* outlay depend upon an *uncertain* event. A tenant may lay out, we ſhall ſuppoſe, 1000l. upon the improvement of a farm, and may die ſuddenly before reaping the reward of his induſtry. This conſideration muſt prevent farmers from laying out money upon land with that ſpirit of enterprize they would otherwiſe do, with a certainty of a number of years. Were it cuſtomary to inſure their lives, the thing, perhaps, would be as broad as it is long; but that is a buſineſs in which tenants are not at all verſant.

This article ſwells ſo very rapidly under my hands, that I muſt now ſtop, although I had much more to ſay. As you may ſee, I have expreſſed myſelf with freedom; perhaps with more than may be agreeable to your correſpondent. I hope, however, that he entertains a greater regard for truth, than attachment to his own peculiar opinions. If he does, he will eaſily pardon my animadverſions. I remain, &c.

9. *Jan.* 1808. A CONSTANT READER.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Potatoes, Ploughing-Matches, &c.

SIR,

NEITHER education nor abilities enable me to write any thing fit for the preſs, or to appear in public; but if the following obſervations are of any uſe to you, I ſhall think my time well ſpent; but if not, you will commit them to the flames, that they may never appear in the dunce's den.

My farm is, a great part of it, of a very light ſoil, and in a very high country, near which there is a good and ready market for potatoes; but I grudged the time and expenſe of taking them up with ſpades, or three-pronged grapes. I tried various ways; and, laſt year, fell upon one that I think will ſhorten the time, and leſſen the expenſe. I got four pretty large baſkets that held about

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two pecks each, which I gave to eight women, two to each baſket. My ploughman, with two horſes yoked to a double moulded plough, drove down the drill on each ſide of the potato-row; by which means he kept her ſteadily in the centre of it, holding fully as deep as he thought there were potatoes lying, the moulds of the plough ſpreading about three feet wide. The women immediately followed the plough, one of them at each end of the baſket, nimbly taking up every potato that was thrown up, but ſearching for none. The ploughman turned up the next row but one, that he might not interrupt the gatherers, or throw the earth upon the unpicked ground. In this manner I did an acre, and then the ſame way in the rows of earth that were thrown up by the plough between the firſt rows. I then yoked the horſes to the harrows, and went once over the ground, which collected all the ſhaws, to be afterwards uſed in fomenting moſs on Lord Meadowbank's plan, and then gave the ground a good harrowing, the women ſtill following, and picking up all that turned up. And thus I cleaned one acre in leſs than eight hours work, (ſix women will do it, but it is very hard work to continue for days). The potatoes were thrown into carts as they were gathered, or on places of the field made ſmooth with a ſhovel. As the plough went faſter than the gatherers, the ploughman, in that ſpare time, carted off part of the potatoes to where they were to remain till taken to market. The whole produce was, in leſs than ten hours, carried off the ground, and covered up. I did not meaſure the quantity of potatoes in the acre, not thinking of this at the time; but they were the beſt crop in the neighbourhood; and I ſold them at twelve ſhillings per boll of ſixteen pecks, each peck weighing thirty-ſix lib. Engliſh. And ſo ſuperior was their quality, that I could not anſwer the third part of the demand, although they were a penny each peck above my neighbours. I employ women for gatherers, as I think they do it more nimbly than men, and, at that ſeaſon, more readily got, and cheaper. I give one ſhilling a day. I immediately ploughed the land, and found it as clean of potatoes as thoſe dug up by the ſpades or three-pronged grapes. The lifting potatoes from the heaps I always found troubleſome, took a good deal of time, and was very hurtful to the ſervants' hands, after they had been working among the ſand and dirt all day. To ſave that, and time, I have grapes with nine prongs, each prong about an inch broad and fifteen inches long, and an inch between each prong. The prong is rounded off at the end thus ⌒, to prevent it cutting the potatoes. With this inſtrument, if care is taken, no potatoes will be cut; and the ſervant will fill a cart of two bolls as ſoon as a cart of dung. The prongs, or neck of the grape, ſhould be bended; and the ſervant, by

by pressing down the shaft of the grape before he lifts it up, cleans the potatoes, by letting the mould fall through between the prongs. I find it particularly useful in cold winters or in frost, when they cannot lye long, after the covering is taken off, without being spoiled. Perhaps some other persons may have followed the plan here pointed out; but I can say I never saw or heard of it.

Although I do not altogether disapprove of ploughing-matches, yet, in my opinion, a better plan might be adopted. I have seen four hundred idle men at a ploughing-match that knew nothing about it, which I considered a great loss to themselves, as well as the country at large. Each man's wage was worth two shillings to himself; and I have no doubt but they spent as much; which was eighty pounds lost to themselves and families, besides the disturbance to those that were at work; and I have known the men that best deserved the prize lose it by the high temper of their horses, not accustomed to the noise. But suppose every parish, where there is a farmer club, were to send judges through the whole parish, just before seed-time, to judge and report of the best ploughed farm, (for an indolent fellow may plough well for once, and make very indifferent work the rest of the season), and let the prize be adjudged to him who in general has executed the work in the most satisfactory manner. At the same time, these judges might report to the club whose farms were best improved, considering the nature of ground, and means of improvement, no matter whether the farm was great or small, or whether it belonged to the club or not. This, I think, would tend to raise ambition in the farmers, as well as their servants; and both have much need of it.

Banks of Ayr, 23. *Aug.* 1807. R. A.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Equalizing Weights and Measures.

SIR,

AN advertisement regarding weights and measures, issued from the office of the clerk of the peace of Kincardineshire, having appeared in several newspapers, (to which, for its substance, I refer your numerous readers), I would beg leave, through the medium of your widely-circulated Magazine, to call the attention of justices in other counties, and of the growers and consumers of grain, to it; and to suggest the propriety and utility of adopting similar steps, so as to equalize the weights and measures over Scotland.

The difference of weights and meaſures within the ſame county has been often complained of, both as giving the farmer an unequal market for his grain, &c. and as leading to diſputes which may, and often do, terminate in expenſive lawſuits: at the ſame time, it is matter of ſerious regret, as expoſing the poorer and ignorant claſſes to the impoſitions of the deſigning.

In Kincardineſhire, an inveſtigation having taken place, and the perſons the moſt intelligent in country matters having been called and examined upon oath, before a committee of juſtices, the weights and meaſures in different diſtricts of the county were found ſo various, and no ſtandard being ſufficiently recognized and eſtabliſhed, it was thought the wiſeſt and moſt expedient plan to adopt ſuch a ſtandard, in every caſe, as the legiſlature and the ſupreme court had uniformly acted upon. The propriety of doing the ſame in every county cannot be doubted, as it would facilitate all tranſactions with the corn-merchant, at the ſame time that it freed him from all riſk or loſs he might ſuſtain from his ignorance of the meaſures uſed in different parts of the kingdom. And ſhould any difficulty ariſe with regard to the propriety of adopting one ſtandard in preference to another, the ſentiments of all the counties in Scotland might be procured, by eſtabliſhing a correſpondence through the clerks of the peace; as it could never be the intention of the county of Kincardine to dictate to others, having only fixed thoſe that appeared to it the beſt; at the ſame time, it is entitled to the merit of ſetting an example well worthy of being followed. I am, &c.

Auguſt 13th, 1808. J. P.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Distillation from Sugar.

SIR,

IT was ſaid of Colbert, chief miniſter to Lewis XIV., that he ruined the trade of France by legiſlating too much for it. This is an error frequently committed by every government. The interference of the legiſlature with trade and commerce may be well meant, but ſeldom proves of much utility. On the contrary, if legiſlative regulations are not founded in wiſdom, much miſchief inevitably follows.

The queſtion lately before Parliament, reſpecting diſtillation from ſugar, has very much divided the nation in opinion; and no wonder, becauſe every one feels himſelf concerned in it. The holders of Weſt India produce expect, by it, to find a better market for their ſugars; the citizens and manufacturers expect to

have

have bread at a lower price; the grain diſtillers expect to make much more by the riſe upon the ſpirits which they have on hand, than if diſtilling had remained on its former footing; while the growers of grain apprehend that they muſt part with what they have on hand at ſomewhat leſs money than they expected, and had reaſon to expect, from the partial failure of the crops. Thus, has the *ſeeming* intereſt of the whole nation, that are not farmers, been ſet in oppoſition to the growers of grain, by a few Weſt India merchants, who have accumulated ſome thouſand hogſheads of ſugar in theſe laſt three or four years, and for which they cannot find a market, at leaſt a market where ſuitable prices can be obtained. In fact, theſe gentlemen have rather choſen to hold it on for ſome years paſt, than to ſell at market value. The diſtilling from ſugar was a meaſure in agitation laſt year; but, as other claſſes of the community did not join ſo heartily in ſupporting the meaſure, it was given up at that time, and reſerved for a more favourable occaſion. That the great body of *citizens* ſhould adopt ſuch a meaſure, cannot be wondered at, their intereſt being thereby *ſeemingly* promoted; and ſuch men, when immediate intereſt is held up, ſeldom think upon, in fact they are incapable of judging of, remote conſequences. You ſeldom find individual citizens capable of determining properly upon a legiſlative meaſure; collectively, they never can diveſt themſelves of that prejudice which they ſuck in from their youth, viz. that mayors, provoſts, and corporate bodies, ſhould frame laws to make the produce of the country be ſold at the loweſt poſſible rates. This diſpoſition need not excite ſurpriſe; but, that a Britiſh Parliament ſhould avowedly interfere, to keep down, or lower the price of grain below its natural level, in order that ſugar may ſell above it, is a meaſure that one would ſcarcely give credit to, if they had not proof poſitive of the fact.

If we examine the cauſes that produced this meaſure, and ſtate a few of the conſequences that muſt follow, I am afraid it will appear that the Britiſh Parliament, like Colbert, have ſometimes *legiſlated too much.*

The partial failure of laſt crop (1807), particularly in the article of oats, raiſed prices above the ordinary average; and of this riſe of price, the promoters of ſugar diſtillation immediately took the advantage. With the patriotic view of keeping grain at a moderate price, they propoſed to ſtop diſtillation from grain, and to ſubſtitute ſugar in its ſtead. That the diſtilleries ſhould *ſolely* depend upon ſugar, is a propoſition which, I believe, few people of ſound heads with to ſee carried into execution, becauſe the conſequences would be fatal to the real intereſt of the country. The late regulations have, however, a *ſtrong* tendency to produce that effect. The capital employed in raiſing corn will thereby be

cramped and encroached upon; of courſe leſs corn will be raiſed, as leſs capital will be employed in its culture; for it is a well known fact, that if ſufficient capital is not employed, the operations of the agriculturiſt muſt be limited and contracted; of courſe, that the mode of culture which he is forced to adopt, bring him ſcanty returns. *He* ſuffers, in the firſt inſtance, as an individual; but the community at large are ultimately the real loſers.

But, ſay the ſupporters of this meaſure, we do not mean to hurt the farmer; we only wiſh to prevent him from getting *exorbitant profits;* and ſure no harm can follow a meaſure calculated to keep down the price of grain to its uſual level. Nothing can be more unfair than this reaſoning. Had the farmer a power of keeping up the prices, in years of great plenty, to the level of prices for crops in years of ordinary produce, there might be ſome ground for the argument; but this is not in his power. He can no more find a market for his grain in years of great plenty, at the ordinary price, than the planter can for his ſugar, when he has a redundancy on hand. In either caſe, both *muſt* part with their articles at an under price; in other words, at the market value.

Mr Barham, one of the ſupporters of the meaſure under conſideration, in a ſpeech in the Houſe of Commons, much admired for the perſpicuous manner in which he argues in its ſupport, admits that the landlord and farmer ought to receive a *remunerating* price for their reſpective commodities. This is ſpecious; and no one can object to the planter being remunerated, in the like manner, for his ſugars; but if the preſent market for ſugar does not *remunerate* the planter, I think it remains a caſe not clearly made out, even by the abilities of Mr Barham, whether or not the profits of the farmer are at preſent ſo far above what will *remunerate* him, as to warrant a meaſure calculated to take away a part of this profit, and make it fall into the hands of the ſugar planters.

Mr Barham ſays he has *farmed ſucceſsfully*. Here, I ſuppoſe, he meant to impreſs the Houſe and the country that he had a perfect knowledge of the art, and, of courſe, that he was qualified to regulate the agricultural concerns of the whole empire. I do not mean to call in queſtion this gentleman's abilities as a farmer, nor his ſucceſs in that line of buſineſs; but I muſt affirm, that his knowledge of the ſtate and condition in which the great body of the farmers in the Britiſh empire are placed, can only be conſidered as local and imperfect, probably not much further extended than the fields which he cultivated, otherwiſe he never could have repreſented them to be '*wallowing in wealth.*' Indeed, there may be ſome thouſands of farmers ſcattered over the empire in eaſe and in affluence; but ſuch bear ſmall proportion to tens of thouſands who are barely able to ſubſiſt.

A great proportion of the lands in Britain and Ireland are occupied by men who have not ſtock to cultivate them in the moſt profitable manner; hence a ſcanty return to the farmer, and a ſhort ſupply to the community. The preſent meaſure will encroach upon this ſcanty ſtock, already too ſmall, and make the annual ſupply of the neceſſaries of life more and more limited in quantity. Regulations, ſuch as thoſe commented upon, have always operated to retard a complete cultivation of the ſoil, as they ſerve to curtail exiſting capital, and check freſh capital from flowing freely into the channel of agricultural improvement.

Mr Barham thinks the landlord receives too much to *remunerate* him, when he doubles his rent upon a barley farm on granting a new leaſe. If this can be effected, and the farmer ſtill able to pay his rent, without encroaching upon his capital, I think it is a happy circumſtance for the country, and of full as much conſequence to the nation at large, as if ſugar planting were yielding 300 *per cent.* profit to the planter, as has ſometimes happened. But however great profits a planter may reap from his outlays, or however much profit a landlord may receive from his purchaſe, they have no effect upon the annual produce of grain, provided their profits are not taken from what ought to remunerate the farmer. A landlord may not receive 1 *per cent.* for his purchaſe-money; but this does not affect the produce of the ſoil. If the farmer, however, does not receive profit ſufficient to enable him to pay his rent without encroaching upon his ſtock, his return of grain will annually be diminiſhed.

But, in order to ſet this in a proper point of view, I ſhall give a general ſketch of the ſtock which land requires, and then the manner in which the returns muſt be applied. I do not preſent what follows as an exact calculation; neither do I take in any capital that may be needed for houſes, fences, or ſuch permanent improvements.

To ſtock an arable farm with labouring cattle, utenſils, manure, ſeed and labour, will require ſix pounds or guineas for every Engliſh acre. The produce of decent land may be four quarters per acre; but of this produce two and a half quarters muſt be deducted to replace ſeed, labour, and the numerous outlays upon a corn-farm. Now, the greater part of this produce being returned to the ſoil, or conſumed upon the farm, it is evident that the farmer has little intereſt as to the price of it, except the year in which he ſtocks his farm. The remaining one and a half quarter muſt pay his rent, and maintain him and his family. It is of no conſequence to the public how this ſurplus produce is divided between the landlord and tenant. It is true, indeed, if the farmer receive *leſs* than he poſſibly can ſubſiſt upon, the country would ſhare in his ſufferings; as, in that caſe, he

muſt encroach upon his ſtock, of courſe leſs corn would be produced upon his farm. But, though many of our farmers may be in ſuch depreſſed circumſtances from hard bargains, this evil, though great, is only of a partial kind. The evil ariſing, however, from the meaſures we are conſidering, is general, affecting the good farmer as well as the bad one; and, of courſe, highly pernicious to the real intereſt of agriculture.

Were our farmers *all* in the ſtate of opulence in which Mr Barham deſcribes them to be, there could no harm follow this meaſure to the empire at large. It might, indeed, afford matter for the moraliſt to diſcuſs, how far a government ought to interfere, and compel the affluent to aſſiſt thoſe that are in want. Charity inculcates, that *individuals*, who have good things in abundance, and to ſpare, ſhould part with ſome of their ſuperfluities to the needy. But we have no ſuch thing as *charities* being practiſed by different claſſes in the ſtate to each other; and I really think government ought to be a little cautious how they *order* ſuch *charities*.

It is allowed, on all hands, that there were partial failures of the crops laſt year. The farmer having leſs ſurplus produce to ſhare, required a little more money for it; of courſe, prices were a little higher than they were twelve months ago. But, from the quantity of old wheat on hand, and the failure being only partial, no apprehenſions could be entertained of a great ſcarcity, far leſs of any abſolute want in the country.

But, ſay the ſupporters of ſugar diſtillation, not one quarter of leſs grain will be raiſed. The ſeed is all in the ground, and the meaſure is only meant to be a temporary one. True; but if, by keeping down the corn markets for a few months, you oblige the farmer to retrench a little in his labouring expenſes, that he may ſpare a little more oats and meal to make up his rent, and alſo to withhold a quantity of manure which his farm would require, will any of theſe wiſe men pretend to ſay, that ſuch a farm will yield as much for ſeveral years to come, as if cultivated and manured in a more perfect ſtate? The thing is impoſſible. This is not a *ſuppoſititious* caſe, that farmers will be obliged to retrench a little in labour, &c.; it is the real caſe of many thouſands of farmers in the Britiſh empire. When theſe gentlemen perceived that the preſent cultivation could not ſupply the demand, but that we required an importation of 800,000 quarters of grain yearly, it ſurely ſhowed no great ſign of their knowledge of rural affairs, to propoſe, as the beſt plan to remedy this evil, a meaſure that *muſt* operate to the decreaſe of our annual produce, for many years, of double the quantity which was lately imported.

Mr Barham ſeems to have a confuſed idea that the farmer cannot

cannot carry on without a *remunerating* profit; and though he does not explain himſelf, he leads us to believe that *low* prices will not remunerate the farmer; and ſtates as a great evil, attendant on very low prices, that high prices immediately follow. His words are, 'Very low prices were invariably found to produce *exorbitant* high prices at ſubſequent periods.' Is not this plainly ſaying, that farmers, not being paid by very low prices, are unable to cultivate their lands in a proper manner; of courſe leſs corn is produced, which is the cauſe of the exorbitant high prices at ſubſequent periods?

But here I would wiſh that Mr Barham, and thoſe gentlemen who argue upon his principles, would attend, that low prices do not, in every inſtance, produce ſubſequent high prices. Every one who has paid the leaſt attention to theſe matters, muſt have obſerved that a run or courſe of favourable ſeaſons often occur; and if ſuch ſeaſons are ſucceeded even by ordinary or middling ones, exorbitant or high prices will not follow. Should the produce be increaſed one half quarter per acre annually, in three or four favourable years, prices might continue conſiderably below the average, without any ſenſible effect on the cultivation of the ſoil. In this caſe, the farmer would have two quarters per acre ſurplus to ſhare, after replacing ſeed and labour, inſtead of his uſual ſurplus of one and a half quarter; of courſe, if with one and a half quarters at 60s. he is able to pay his rent, he can afford to ſell the two quarters at 45s., without encroaching upon his ſtock. But ſhould low prices be produced by any other cauſe than plentiful crops, the caſe will be widely different. Let the cauſe proceed from a haſty peace, or ſudden breaking out of war; let it be produced by the preſent meaſure, or any other regulation of the corn trade, the effect is the ſame; and, ſhould the ſtagnation be ſuch as to force the farmer to ſell at 45s., when he would, from the ſtate of the crops, require 60s. to repay him, you oblige him to encroach 15s. per acre, which is one eighth of his capital ſtock. In this caſe, *exorbitant* high prices muſt follow; becauſe capital being wanting, cultivation muſt be limited; and ſuch caſes need no illuſtration. The facts only require to be ſtated, from whence concluſions may eaſily be drawn. No problem in Euclid can be more clearly demonſtrated. Withdraw any part of ſeed, labour, or manure, that is neceſſary for proper cultivation, and you reduce the amount of the produce of the land in a proportionate degree.

In every point of view, the reſtriction upon the use of grain appears erroneous, though proposed as a temporary measure, and to rectify what is considered to be of a temporary nature. The diſtreſſes of our West India planters have arisen from too great a

proportion of the sugar islands having fallen into our hands, and from employing more capital in cultivating sugar than we have occasion for. The immense profits formerly made by sugar plantations, encouraged the capital of the country to run into that channel, and tempted the country to *colonize* too much, at least for the existing state of Europe. If a part of the capital employed in cultivating sugar, more than we have occasion for, were withdrawn, and laid out in cultivating corn upon some millions of acres presently in a waste or unproductive state, we might be independent of our neighbours for the importation of grain. But, if this cannot be accomplished, why give the planters an advantage over the farmer, by any monopoly whatever? Let the rude produce of each come fairly into competition; and, if spirits can be made from sugar, paying an equal duty with that from grain, few objections would be urged against such a competition; but, if this cannot be done,—if your sugars must have a monopoly, I must raise my voice against the measure, and pronounce it dangerous to the state; because the monopoly is solely calculated to promote the advantage of a few merchants, at the expense of the many thousands employed in agriculture, and at the risk of shortening our supplies of grain at the present period, when we are uncertain of supplies from the neighbouring countries.

But the stagnation which must take place in the corn trade, will prevent many thousands of farmers from bestowing the same manure and labour upon their farms this summer as they would otherwise have done. After all, it is probable that little or no spirits will be made from sugar, at least for many months; while the grain distillers, who have a large stock in hand, will be great gainers. These gentlemen distil comparatively little in summer. In many districts, for several years past, they have stopt altogether from May till November. The great quantities of spirits which the distillers have on hand will furnish a supply for many months, and yield them much more profit than if sugar distillation had not been thought of. The great body of our manufacturers and citizens may have the satisfaction to eat their quartern loaf twopence cheaper for three months to come, though, perhaps, they will not perceive this to be the cause of a shortcoming of loaves for a series of years afterwards.

It has been the great policy of our government to keep down, by regulations, the price of grain; but I must own I am a little doubtful of the wisdom of such policy. Bread is a *manufacture* as well as broad cloth. It certainly would not be thought the best way of increasing the clothing trade, were restrictions laid upon the manufacturers, whereby they were obliged to sell at cheaper rates than the raw materials and workmanship cost them.

Now,

Now, if a manufacturer cannot go on under a compulsory system, how can the farmer proceed, when the market for one of his principal articles is in a manner shut up, and he is denied a price for his grain equal to what it cost him in seed, labour, and rent? Besides, if the same *quantum* of seed, labour, and manure, cannot be afforded for the culture of next crop, of course there must be a diminution of produce afterwards.

These are matters, Mr Conductor, of great importance to the public interest; and I earnestly wish that the supporters of the restrictive system would take them seriously into consideration. If you think this paper, which is hastily written, worth a place in your useful Magazine, it may perhaps cause the subject to be more amply and satisfactorily discussed by some abler hand. At this time, it appears to me that the interest of British and Irish farmers has been wantonly sacrificed to promote the sale of West India produce; which certainly is a measure hostile to the prosperity of the state, seeing that the culture of bread corn is thereby eminently discouraged. I am, yours, &c. J. B.

Dublin, June 7. 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Hints in regard to certain Articles which might be substituted for Grain in the Manufacture of Drink.

Vincit amor patriæ, laudisque immensa cupido.

SIR,

AT a season when the sense of a scarcity of bread-corn is so imperious, as to have called for the interposition of the Legislature, in order to put a stop to the distillation of spirits from grain, it becomes a duty to suggest every probable remedy which may have a tendency to counteract the evil in the mean time, and which may, in its after operation, serve to lessen the danger of the recurrence of such calamities in future.

Much has already been written, and by able pens, on the means of augmenting the growth of grain, so as to meet the wants of an increasing population; therefore I shall not touch on that subject. The object of the present communication shall be confined to the recommendation of some extraneous resources which might probably be introduced for diminishing the usual consumpt of grain, satisfied that a saving in the consumpt is equivalent to an increase in the growth of that article of the first necessity.

The

The annual consumpt of grain, in the manufac
fermented and spirituous liquors, is immense ; anc
believe that there is no home-brewed or distilled l
any considerable quantity, except from grain, or in
not the principal ingredient. I do not mean to s
not a necessary of life, nor even to recommend a m
consumpt of that article. I am sensible that it is n
ter to get the better of inclination and habit, and tl
ture of man, at times, to indulge himself with a
order to exhilarate the spirits, even amidst the
scarcity ; therefore, my aim shall be, to point ou
articles which might probably be substituted for
manufacture of drink. However expedient it may
mean time, and during a temporary scarcity of grain
the distillation of spirits from sugar, a colonial pro
some future period, such a measure, perhaps, migl
oned so politic. Britain may be a great and a po
even without sugar colonies attached to her. At
fundamental maxim, that a nation ought, as far
draw the means of subsistence from her native pr
is greatly preferable to any precarious dependence
ed commodities, whether of colonial growth or not.
therefore, I shall briefly mention a few native a
might become most extensively useful in the m
drink.

It is an universal tradition in this corner of the
have heard it repeated from my infancy, that a fine,
verage was once prepared from the *bloom of the hea*
and the story adds, that the art was lost on the ex
Picts, to whom alone, it is said, that the secret of f
ripening the liquor was confined. It is true, that
been able to discover any historical record or writte
support of this popular tradition, although I will
that none such exists ; but my belief in the traditio
weakened from the want of such corroborative histo
as very few of the domestic and economical habits a
the aboriginal inhabitants of this island are handed
history ; therefore, the want of such historical i
no proof that such a practice did not exist, while
dition affords a strong evidence that such a practic
exist. On the one hand, it is not very probable that
lar tradition should have been handed down from
generation, without any preexisting reason or cause
other hand, is it improbable that an art, however
useful it once might have been, should have been l

olutions and vicissitudes incident to every sublunary thing; amidst the many valuable discoveries of modern times, we e still to regret the loss of many arts known to the antients, of haps equal utility and value.

n traversing the immense tracts of mountains, where the wide anse offers little else to view but one uniform covering of th, the *sombre* verdure of which is admirably suited to the ro-ntic wildness of the scenery, the contemplative mind feels osed to inquire, if a shrub, which covers such an extent of earth's surface, is destined to remain for ever of little apparent ; or, if it be possible, by the exertions of human genius and ustry, to convert it to answer some purposes of extensive utili- and it is only a natural conclusion to infer, that a shrub, ch covers so many thousands of miles, and that so closely as ost to exclude the growth of any other vegetable, must possess lities which may prove highly beneficial to the regions in which quantity of it is so very exuberant.

he article itself, viz. the bloom of heath, seems naturally ad- i to be the *basis* of some useful *extract*. It has a fine aroma- flavour; it has an agreeable, and somewhat sweet taste; and bees, the best judges of vegetable sweets, and the best extract- of them, are found to prefer the bloom of heath to all other rers; and the honey which is produced from the heath is the t generally agreeable, both in taste and flavour. It seems to w, of course, that there is a very strong sweet in the bloom eath.

n attempting to try experiments for extracting such sweets, it uld occur, that there must be a critical period for gathering it, newhat similar to what exists in the process of malting grain, a period at which the bloom will be found the strongest, and the highest flavour, and capable of yielding the greatest quan- of sweet; after which, it will gradually decay in quality and our. It may also require some attention to discover, whether bloom must be altogether separated from the stalks and fo- e, or whether part of these may be mashed along with the om; also, whether any previous preparation of drying the om may be necessary; or if it may be used most profi- y in its green state, and immediately after being gathered. ny other minute particulars will casually occur to an attentive d, in the course of making experiments. At any rate, it is bable that the liquor or infusion ought to undergo some sort slow, natural, vinous fermentation, and not a rapid, artificial mentation, excited by yeast; and, if ever a fermented liquor be obtained, there is little doubt but that such liquor may al- e distilled, either separately, or with some mixture of liquor from

from grain, into an ardent spirit, which perhaps may prove of a quality and flavour superior to any ardent spirit hitherto made: at any rate, it may be more congenial to the constitution of the natives than any foreign liquor or spirit.

The next article which might be suggested as a substitute for grain in the manufacture of drink, is *whey*,—an article of which the quantity is immense, and of which many thousands of tons are annually cast out to the dunghill, exclusive of what is rather more profitably consumed in the feeding of swine; and which article of itself might, perhaps, be found equal to the annual consumpt of the natives in drink; or, at any rate, its quantity might be increased almost to any extent. That a palatable and wholesome beverage may be made from whey or milk, rests upon evidence which cannot be disputed.

Indeed there is the greatest probability, that a drink, prepared from milk or whey, was one of the most early beverages, and in common use among mankind all over the world, long before discovery was made of the possibility of extracting any sort of drink from grain; and a species of drink in universal use in the early ages of society, and which is still used in many places of the earth, might yet be found highly useful in this country at this day; and an everlasting prejudice ought not to consign the present hint to neglect or oblivion, in the face of the very many respectable authorities which attest the extent and utility of the practice, and of which a few shall be noticed here.

If I mistake not, I think that I have read that a drink, prepared from milk or whey, was antiently in universal use among all the tribes and nations which inhabited the northern parts of Asia and Europe, and known to the Greeks and Romans under the general name of Scythia; but, at present, I have not an opportunity of recurring to the authorities, although such a reference appears rather needless, from the very general use of such a beverage in these countries at this day. The milk of mares, either in its original, or in a prepared state, is generally used all over Tartary as the common drink; and the Monguls and Kolmucks prepare a spirit from it of considerable strength; and Dr Willich, in his lectures on Diet and Regimen, in treating of the articles '*Food and Drink*,' page 339, says, that the Persians and other inhabitants of the East, prepare a kind of wine from milk, which possesses all the qualities of an intoxicating liquor; at least, adds the Doctor, such is the report of respectable travellers. Indeed there cannot be a doubt but there is a strong *animal spirit* in milk, which, when duly prepared, may be fully as agreeable to the taste and constitution as any *vegetable spirit*; and if once such a wholesome beverage should be brought to a

state

state of perfection, perhaps our connoisseurs in drinking might hold it in such estimation, as to prefer it to most other kinds of drink; and thus, the present enormous consumption of grain in the manufacture of drink might be greatly diminished.

Though the authorities in regard to the extent and utility of the practice of preparing drink from milk or whey cannot be questioned, yet I should have hesitated to have recommended the adoption of such an experiment into this country, had I not been convinced that such a species of drink had also been used in this country from the earliest ages, and that it was once the most fashionable and genteel liquor; being what was generally used at feasts, when the business was to be merry, and to get intoxicated.

The learned Buchanan, our countryman, in his History of Scotland, (L. 1. c. 33.) in speaking of the manners and customs of the inhabitants of the Hebrides, the indigenous Scots, says—'*Serum lactis aliquot annis servatum in conviviis etiam avidè bibunt. Id potionis genus Blandium appellant*;' *i. e.* at their feasts they drink *whey* preserved for some years, which they relish very much, and which they call *Blandium*. The annotator adds, in a note, that *Blandium* is an Erse word, signifying a sort of drink made of *whey* and herbs fermented together, and which is of an intoxicating quality. Of this latter circumstance there can be little doubt; for, if the drink had not possessed exhilarating qualities, it is not very probable that it should have been used at the feasts, and have been swallowed with such *avidity*. Our author is silent as to the mode of preparing or ripening the liquor; but, if I mistake not, I have read elsewhere, that it was buried for some years beneath the earth in tight wooden vessels; and that, under such a process, it acquired a strong vinous quality, and a taste and flavour highly agreeable. The practice however is so recent, that there is a high probability the mode of preparing such a liquor may yet be known in the Hebrides, or in some of the Highland districts of the Mainland; for, having been an article of common use about 200 years ago, it is natural to suppose that the practice did not cease all at once, but that it has been continued partially down to a very late date; and it might be worth while to make some inquiry among the more aged classes of the natives.

In remote ages, and before an extended commerce conveyed so freely the produce of one country into another, the Highlands and islands of Scotland were obliged to depend upon their own crops and productions for the means of their subsistence; and in these ages, and before the introduction of adventitious commodities and foreign luxuries, the population was much more abundant

dant than it is at present; which is a proof of the superior industry of the inhabitants in former times. In these ages, there cannot be a doubt, but that a liquor, of which the basis was whey, was the favourite beverage of the natives of all ranks. But the facility, when commerce opened, of procuring wines and foreign spirits, has gradually buried in oblivion all traces of antient economy and industry, and has introduced among the better sort a taste for foreign luxuries; which, with the indolence of the common people, when they had not the example of their superiors to excite their imitation, has effected a complete change in the use of drink, much to the disadvantage of the country. After the introduction of wine and foreign spirits, it has no doubt been reckoned vulgar and unfashionable among the better sort to use the cheap and humble liquor prepared from whey; and when it has been banished from the tables of the great, it was easy to foresee that it would not long remain an object of favour with the cottager. It required a tedious process to prepare the liquor from whey; but a liquor could be obtained from grain which was fit for use in a few days, and which, though a much more expensive drink, was better suited to the indolence of the cottager; while, at the same time, it gratified his vanity, by giving him an opportunity of imitating the conduct of his superiors, by banishing also from his humble board that cheap and vulgar preparation of whey, which his chieftain had already rejected from his sumptuous table.

The only other article which I shall mention at present, is one yet in use, which is a beverage prepared from the refuse or dregs of honey, but which is also falling very much into disuse, partly from the undue avarice, and partly from the culpable carelessness of the bee-owners. I have had occasion to see twenty-five or thirty gallons of a very fine and palatable drink made from the refuse of three or four hives, after the pure honey had been separated from the combs, wax, &c. by the simple process of drainage, *i. e.* the allowing the honey to distil or drop leisurely through a sieve or search, into a vessel or receiver placed below, and which sieve retains the combs, wax, and grosser parts of the material. Such refuse was afterwards boiled up in water, by which the mass was decomposed, the water absorbing any remains of the honey or sweet, and uniting with it, while the wax floated on the surface of the liquor; and the grosser parts, on the liquor's cooling, subsided to the bottom as a residuum. To this liquor, when purified by straining, a little of the extract or wort of malt was added sometimes, to make it ferment and ripen the sooner; but when the object was to obtain the liquor in perfection, it was made of a due strength, and received no such mixture;

ture; it was allowed full time to ferment and ripen, in which case it turned out little inferior to some wines; and when a very strong liquor was wanted, the process of drainage was not pushed too far, whereby also a much finer honey was obtained. But now the usual practice seems to be, to force and squeeze the combs by heat and pressure, till a great part of the wax, and even of the very dregs, is forced through along with the honey, whereby its quality is much deteriorated, and the impure and heterogeneous mass never candies or consolidates, but remains a thick dirty liquid. The bee-owner, instead of deriving a profit from this nefarious practice, is a loser. Every pound of wax, which he forces through among the honey, is worth double or treble the price of a pound of honey, and his honey fetches an inferior price at market; while the residuum of the honey, which remains among the combs and dregs, is not worth half the value in any other shape than as the basis of a fermented liquor. Now, under an improved management, the stocks of bees and their produce might be increased, perhaps from ten to twenty fold, without diminishing any other stock or produce, which would be a most important accession to our stock of food and drink at the same time. Bees require a good deal of care and attention, but no sort of stock will pay better for the trouble.

They sip their *nectar*, they gather their *ambrosia* from the flowers they feed on, without any sensible diminution or waste of quantity or quality; of course their sustenance costs nothing, while the profits of a thriving stock are very considerable. Professional attendants, called henwives, are employed to care for poultry; and why not employ professional attendants to look after bees? An old man or woman, fit for no sort of hard labour, could attend to an extensive stock of bees; and experience would teach such attendants, who had nothing else to look after, to contrive many improvements for the comfort of the bees under their charge; and they could follow the most approved general rules for the better management of the stock. Besides, a farmer employing such a professional attendant, could select and enclose the most eligible situation on his farm for an *apiary* or bee-garden, where nothing could annoy these industrious insects, or interfere with their operations; which bee-garden could be stocked with all sorts of flowers and shrubs which are known to be most grateful to the bees, and which the attendants could cultivate and keep clean; and bees would surely thrive much better in such a comfortable situation, and so well cared for, than they could be supposed to do in the exposed situations close to the farm-steadings, in which they are generally kept at present;

and

and which preposterous practice has been adopted and continued for the sole convenience of the domestics watching them in the swarming season.

Such appear to be the native articles, which perhaps might be rendered moſt extenſively uſeful in increaſing the liquid part of our nutriment, without interfering with grain, the prime ſtaple of our bread; and a ſaving in the conſumpt of grain, in the manufacture of drink, would augment, in the ſame degree, the quantity of bread-corn.

That the firſt of theſe articles, *viz.* the bloom of heath, has been uſefully applied in the manufacture of drink, we learn from a very univerſal and highly probable tradition. In regard to whey, we have indiſputable hiſtorical evidence, not only of its extenſive uſe, but alſo of its poſſeſſing all the qualities which we expect to find in drink; and, in regard to the great utility of honey, as the baſis of a drink, we have daily experience to ſatisfy us of the fact. There are, without doubt, many other native articles which might be very advantageouſly applied as ingredients in the manufacture of drink; and many more may yet be diſcovered, when ſcience ſhall direct her inquiries towards ſuch an humble ſubject, which at preſent is left, in a great meaſure, to the management of illiterate cooks. But, on this ſubject, it does not appear neceſſary to enlarge at preſent; though, with much ſubmiſſion, I may be permitted to draw one general reflection, which ſeems to obtrude itſelf on my fancy, and which I mention without any intention of running foul of the philoſophy of the day.

Never was there a greater avidity for diſcovery in ſcience; never was there a greater avidity for novelty; and never did philoſophy make ſuch ſurpriſing efforts to develop the *arcana* of nature, as ſhe does at preſent. Now, while our able chemiſts are buſily employed in decompoſing earths, ſtones, metals, &c. and in compoſing drugs, dye-ſtuffs, varniſhes and cements;—while they are analyzing the very elements of matter, and purſuing nature through her moſt hidden receſſes;—while they have added much to the ſtock of human knowledge, and, at the ſame time, greatly enriched our language by the diſcovery of the gaſes, azots, oxygens, hydrogens, and all their various beautiful compounds and ramifications: perhaps ſome of our learned men may, at ſome future period, deſcend from the ſublimity of ſcience, and may perhaps condeſcend to direct their experiments towards the humbler, though not the leſs uſeful branches of knowledge, viz. in the diſcovery of the means of increaſing the quantities of bread and drink, the ſtaple articles of human ſubſiſtence. At ſome future period, perhaps, the *bias* of ſcience may alter its direction; and it may become the opinion of the learned, that true philoſophy conſiſts more

more in attempting to increaſe the comforts and happineſs of mankind, than in decyphering the legend on an urn, determining the age of a coin or medal, or even in the purſuit of the more daring experiments of *galvanic* reſuſcitation.

Might I conclude by venturing to expreſs a wiſh, that the Highland Society would honour theſe rude hints with their notice, and recommend them to the conſideration of a wiſe and enlightened nation? But, whether theſe hints ſhall excite any ſerious attention, or whether they ſhall be viewed as idle dreams, and be conſigned to oblivion, yet, to have ſuggeſted what he conſiders as probable, and highly important improvements, ſhall afford ſome conſolation to

A CLOWN.

Aberdeenſhire, 15th July, 1808.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR, *Borthwick, 6th October, 1808.*

I SEND you a copy of the Regulations of the Middleton Farming Society, Mid-Lothian, which, if reckoned worthy of a place in the Farmer's Magazine, may be inserted in first Number. At any rate, I will be much obliged to you for your remarks upon them. At the inſtitution of the Society, it was the intention of the original members to have the Society compoſed of farmers and landed proprietors reſiding in the immediate neighbourhood. This has, as yet, been ſtrictly adhered to. The Society intend having an annual ſhow of cattle and ſheep; they will likewiſe have a ploughing match in the ſeaſon.

I am, with much reſpect, yours ſincerely,

ALEX. INNES.

Regulations of the Middleton Farming Society, inſtituted 19th February 1808.

I. THE Society ſhall meet in the houſe of Mr Wilſon, in Middleton, on the firſt Tueſday of every month (the months of April, September, and October, excepted), with power to the members, or majority preſent, to alter the day of meeting in winter, ſo as the members may have the benefit of moonlight.

II. There ſhall be a preſes, a ſecretary, and a treaſurer. Each member ſhall ſit as preſes, in the order he ſtands in the liſt. The member preſent who ſtands next in the liſt to the preſes, ſhall ſit as croupier. The croupier, if preſent at next meeting, ſhall ſit as preſes, to the excluſion of all the members who ſtand before him in the liſt, although they have not before ſat as preſes.

III. The ſecretary and treaſurer ſhall be elected for one year

from the time of their election; and a new election shall be made to these offices annually, at the meeting in May.

IV. The object of the Society being to promote the interests of agriculture, a topic connected with Rural Economy shall be proposed at each meeting, as the subject of discussion at the next meeting; when it is expected that members will come prepared, either with a written essay, or to speak at large on the subject.

V. No persons to be admitted members of this Society, but farmers and landed proprietors. No honorary members to be admitted. The number of members not to exceed thirty.

VI. No new members to be admitted unless there are ten members present. Before any person can be admitted as a member of this Society, he must be proposed by one of the members, in a letter to the preses for the day. The preses shall then propose him to the meeting, when he shall undergo a ballot, and may be admitted, on having a majority of members present in his favour. The preses to declare whether he is admitted or not. Members to have it in their power to defer balloting for a new member till the next meeting after that on which he was proposed. If a new member does not come forward at the next meeting after that on which he was admitted, the member who proposed him shall pay a fine of five shillings. No balloting for new members shall take place, till the business of the day be over.

VII. In summer, the hour of dinner shall be 3 o'clock, and the bill shall be called at 7. In winter, the hour of dinner shall be 2 o'clock, and the bill shall be called at 6. Immediately after that, the preses shall adjourn the meeting, and the members shall dismiss. Whisky punch, or toddy, shall be the usual drink of the Society. No wine shall be allowed on any account.

VIII. The Society shall enter on the despatch of business immediately after dinner. Each member shall have an opportunity of speaking in his turn, and shall in all cases address himself to the preses. The preses shall give the necessary orders to the secretary, treasurer, and others, for carrying on the business of the Society; and shall collect the votes of the members on any subject where a difference of opinion may arise; he himself, in case of an equality, having the casting vote. He shall then pronounce the determination of the Society. The preses shall watch particularly over the peace and good order of the Society.

IX. Each member shall pay five shillings into the hands of the treasurer at his admittance, to be applied as the Society may afterwards determine. At the annual meeting in May, every member shall pay into the treasurer thirteen shillings and sixpence; from

from which fund the treasurer shall pay the dinner bill for each member, whether present or absent, for nine meetings. Members admitted betwixt the annual meetings, shall only pay a sum sufficient to defray the expense of their dinners from the time of entry till the next annual meeting. Members failing to pay up the annual subscription at the first meeting after the annual meeting, shall be considered as no longer members, and their names shall be taken out of the list.

X. As the greatest decency and good order shall be kept up, no person will be allowed to curse or swear, or appear drunk in the Society. Every member transgressing the rules of the Society, in these, or other respects, shall be liable to a fine of one shilling for the first offence; two shillings for the second; and for every succeeding offence the fine shall be augmented one shilling: the fines to be levied by the authority of the preses. A preses transgressing the rules of the Society, may be called to order by any member, and the vote may be put whether or not he is liable to a fine. Members reckoning themselves aggrieved by the authority of the preses, may appeal to the meeting; but, in order to prevent unnecessary trouble, such members shall be liable to a fine of one shilling, if their appeal is found to be groundless.

XI. The presence of five members shall be necessary to constitute either a monthly or annual meeting.

XII. Any member may bring one stranger along with him; but he shall pay his dinner bill, and become liable for his good behaviour.

XIII. No meeting of the Society shall dispense with a standing rule in any particular instance; and no standing rule shall be altered, until a motion to that effect be made by a member of the Society, and seconded by another; which motion shall lye upon the table till the first meeting after that at which it was proposed, when it may be determined by a majority.

XIV. Whoever does not signify to the secretary, by word or writing, that he is not to continue a member of the Society, before the annual meeting in May, shall be held as continuing for the ensuing year, and shall be required to pay accordingly.

XV. The secretary shall keep a book in which he shall enter the minutes of the proceedings of the society, and whatever else they may deem worthy of insertion. The treasurer shall likewise keep a book, in which he shall enter a regular account of the entry money, fines, &c. paid in to him. Both these books shall lye on the table at every meeting.

XVI. The rules of the Society shall be printed, and a copy given to each member at his admittance.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations upon the Draught of a Leaſe, inſerted No. XXXIV p. 182.

SIR,

HAVING peruſed a copy of the leaſe, inſerted in No. XXXIV. of your Magazine, when it was circulated in Dumfries-ſhire two or three years ago, I formed an opinion upon it very different from that expreſſed by your Lauriefton correſpondent. * I conſider it as ill calculated for the encouragement of an induſtrious tenant, or the improvement of the neglected eſtate for which it was intended. A few, and but a few of the clauſes, carry out the report that Dr Coventry aſſiſted in framing, when that eſtate was ſurveyed; and the excellency of theſe is more than overclouded, by the overſtrained conditions which too often occur in the deed. I ſuſpect J. B——k has never been an outgoing tenant; and that, like Mr Marſhall, † who told our fathers nearly thirty years ago that 'his farm had been let to a neighbour, whoſe birth, parentage and education, life, character and behaviour, were jointly and ſeverally not worth recording,' he aſſumes a preeminence in favour of the incoming tenant, which experience does not teach, nor practice juſtify. In a compariſon between the outgoing and incoming tenants, it will generally be found, that the knowledge and experience of the former entitle them to the preference; the latter, frequently new adventurers, probably a mechanic, a cattle-dealer, a horſe-dealer, a fiſher, a ſmuggler, or a whiſky retailer, out-bid the judicious farmer; (and I know that ſuch adventurers ‡ have inſured a preference, by adding a P. S., in the way of an amendment, 'If I am not the higheſt offerer, I will give 10l. more than the higheſt'); and when they have done ſo, unacquainted with the rights of outgoing and incoming tenants, too often from the jarring opinions of others as ill adviſed as themſelves, they reſort to legal meaſures; and the firſt notice of complaint, is the ſervice of a proceſs, probably an interdict againſt the cloſing of the few remaining agricultural operations attached to the right of the outgoing tenant. But Mr B——k may ſay, it was not in the compariſon of the knowledge or experience in either the outgoing or incoming tenant, but in the

* Page 344 of the Thirty-fifth Number of the Magazine.

† Marſhall's Experiments and Obſervations concerning Agriculture and the Weather, 1779.

‡ With ſuch adventurers, the greateſt part of an eſtate in the ſouth border of Dumfries-ſhire, was lately tenanted.—How unpromiſing is the management of *two* to *one* of ſuch farms!

the diſpoſition and principle, that he arraigned the former. In theſe, however, the new is ſeldom the old tenant's better. With your Eaſt Lothian Ruſticus, I agree that 'it would be an invidious taſk to contraſt the character of the modern farmer with his predeceſſor.' §

Indeed, I ſuſpect Mr B——k has never been an incoming tenant; or, if he had, he would have taken the firſt part of the clauſe ſelected by him under his conſideration. The obligation upon the tenant to furniſh the *carriages* of the whole materials for the buildings and repairs on the premiſes, is too much *akin* to the proſcribed, or rather aboliſhed, *arrage* and *carrage*; ſervices ſcarcely now remembered in this county. The bad conſequences attending ſuch a condition cannot eſcape an attentive obſerver. During the firſt and ſecond years of the tenant's entry, buildings and repairs will be required. During theſe years, the tenant will find much extra-work upon the farm; for his farm-horſes and ſervants (probably a ſcarcity of proviſions too), furniſhing the carriages conditioned in this clauſe, muſt occaſion the neglect of the farm; and ſuch a neglect, at the commencement of the leaſe, is not only a loſs almoſt irreparable, but often attended with that ſlovenly management, which the tenant does not overcome during the whole leaſe. I ſuggeſt, as a ſubſtitute for this part of the clauſe, an enactment, that the tenant ſhould not work for hire, with either his farm-horſes or ſervants, during the firſt three years of his leaſe. It does not occur to me, that there is much room for quibbling between *proper* and *good* condition. A *proper* general, I am told, is always a good leader to an army. The verdict which ſuſtains any article as *proper*, certainly includes a finding that it is ſufficiently good. Had the framer of the leaſe, or the gentleman who echoes its praiſe, endeavoured to condenſe the *five* ſeparate clauſes as to houſes, &c. into one *proper* clauſe, it might have been a *good* one; and, as an amendment to the whole, a *proper* ſtipulation that the houſes, &c. which the tenant was to leave in good condition, ſhould only be thoſe which had been *good* at his entry, or made ſo by the proprietor during the leaſe, would have been a *good* improvement; but many more important improvements will fall to be introduced, before the leaſe under conſideration can be ſanctioned by the vote of a majority, as a fair contract between landlord and tenant.

In noticing ſome of the clauſes in their order, I ſhould mention, that the indulgence to the tenant in this leaſe to appoint or name his heir, is an improvement, and one ſtep advanced to conſtitute that right which alone can give certainty in a proper

§ Page 175 of No. XXXIV. of the Magazine.

management of, and return for, his property to the proprietor, and ſtability to the credit of the tenant. Had it been ſuggeſted to the noble proprietor of the eſtate for which the leaſe was prepared, that, to ſecure the continuation of a good tenant, the punctual payment of a fair rent, and to avoid, what muſt be diſtreſſing to his feelings, the loading of the pariſh church doors, in the neighbourhood of his eſtate, every *Sunday*, with the advertiſements of the ſales of the chattles, &c. of his tenants, by virtue of a warrant of the judge-ordinary;—I ſay, had it been ſuggeſted to him to ſubſtitute, for the clauſe ſecluding aſſignees, &c. a proper clauſe authoriſing the tenant to diſpoſe of his leaſe, under ſuitable conditions, his tenants would have been more happy, and his Lordſhip a great gainer. *

When a tenant offers for a farm, it may not be the annual value of each acre taken ſeparately, but the quantity and quality of the whole taken together, that induces him to take the farm. Suppoſe a tenant finds a farm of *two* hundred acres best ſuited to his ſtock, and the ſtrength of his family; he will give more than he would do, in proportion, for a farm of the ſame quality, of one hundred and fifty acres. If ſuch a reſervation as that authoriſing the proprietor to allocate a part of one farm to another, in the alteration of marches, is admiſſible, the annual value of the ground is not a fair allowance for the one, nor augmentation of the rent to the other tenant. Taking fifty acres from a farm of two hundred acres, may do more real injury to the tenant than three times its annual value; and, in like manner, it may do more good than its annual value to the farm to which it is added; and it may even do leſs good to it;—it may be an addition for which the tenant is not provided, either in ſtock, or ſtrength of family. In place of the annual value of the ground, the injury done to the tenant whoſe farm has been diminiſhed, and the good done to the other, ſhould regulate the alterations in their rents with the proprietor. The payment of 6 *per cent.* upon improvements, is a barrier in the way of agriculture. The proprietor is not courted to lay out the capital; as, rather than pay an extravagant *per centage*, the tenant will ſhift over another and another year, and ſo on to the end of his leaſe, in the old way. The ſame *per centage*

* Where a landlord is obliged to have recourſe to judicial ſales for recovering his rents, and to proceſſes without end upon other conditions of the leaſe, the conſequences are, the tenant, in the end, is ruined with the accumulation of coſts; the farm, from the repeated ſales, robbed as bare as its poor *pooked* tenant. At laſt, an inſufficiency for the rent, and lawyers' bills, occaſion his ſurrender. Here, there is no gainer but one; and that one is neither the tenant nor his ſucceſſor; neither is it the proprietor;—it is his law agent.

centage indiscriminately upon every branch of improvement, establishes it rather as annualrent upon money, than as profit resulting from meliorations made on land; consequently, the exaction cannot be a hair-breadth free of the statutes against usury. If the proprietor is no wiser, he is more moderate than Dr Dewar, who calculates upon 25 *per cent.* Facts, however, are better than a cloud of such calculators. Subdivision dikes and fences, from their general construction, do not sufficiently answer all the purposes intended at first. Generally a *clap-dike*, with a hedge and ditch, are not a sufficient fence for the first *five* years, even when properly managed. The tenant taken bound to keep them in good order during that period, reaps little or no advantage from them; and, whilst he is thus raising the property for his landlord (probably to be enjoyed by another tenant), at an expense not less than 10 *per cent.*, what right has the landlord to expect a *per centage* so extravagant? Like property itself, he should wait till the improvements become productive, and then ask a consideration proportionate to their annual value. Thirty years purchase may be held as the medium value of land. Improvements upon land will keep pace with it; and, though they may not be worth more than $3\frac{1}{3}$ *per cent.* at first, they will double their value in due time. There are other species of improvements, such as drainage, which are not proposed in the clause now under consideration. Drainage, of all others, yields the most immediate return. It requires no labour in maintaining ditches, * but what it makes an immediate return for; therefore, of all others, it could afford the highest *per centage.*

The reservation for planting contains a more equitable rule than the clause as to the alteration of marches. Here it may be stated, that as plantations are improvements, their benefit to the tenant might compensate the annual value of the ground taken up by them. In time they certainly would; and if I was a tenant on the estate, as the overseers seem to neglect this reservation, I would request his Lordship to allow me to pick the transplantable trees from his overgrown nurseries, to plant a few acres and preserve them properly, to support me in a claim for a preference as an old tenant at the next renewal of the leases. But I shall suggest something further upon this head, when I come to speak of the clause binding the tenant to preserve the trees, &c.

But it could not escape the framer of the lease, that as preferring the highest offerer was to make him pay roundly for his experience, so the clause intended for the proprietor to reap the whole

 benefit,

* In the scouring of ditches, the earth acquired therefrom is generally equal in value to the expense of the labour.

benefit, even after the tenant may not only have exhauſted his own ſtock, but as much more as he could procure upon credit, ſeems to be an infringement of the eighth commandment. Buckle's riding at Newmarket ſeemed not ſufficient. Over anxious directions to lead, appear to have carried him to the inſide of the poſt; and he muſt be declared diſtanced. Neither the ſtatute nor the public law are ſufficient to prevent it. The ingenuity of the gentleman employed having made a clauſe or obligation greater than the *ſtatute* or *public* law, his name is well entitled to be honourably mentioned. One ſtep further might have made his enactment effectual; a royal grant to inveſt him with executive power to enforce obedience to that which, without a bluſh, is confeſſedly unauthoriſed by the preſent law of this kingdom. I ſhall not attempt to prejudge the queſtion. I underſtand it is already fourfold before the Court. I have no intereſt at ſtake to induce me to be over ſanguine in anticipating what effect will be given to this new law. So far as it has already been tried, its defect is admitted. Though the proprietor reſerved full liberty to aſſume poſſeſſion; yet he has found that impracticable without the interference of a law-court. And can the proprietor expect that the Court of Seſſion will exerciſe that *nobile officium*, often ſtretched out to ſoften the rigour of harſh law, but never exerciſed to compel obedience to that which neither ſtatute nor common law authoriſes? The reſerved liberty to aſſume poſſeſſion ſeems not to have been conſidered ſufficient at the time; for, in the ſame clauſe, and before the ſtart of the obligations upon the tenant, he is made to renounce the poſſeſſion, and to conſent to ſummary diligence for removing him. This likewiſe ſeems not to have anſwered the end intended. Indeed, there appears no ſmall degree of inconſiſtency in renouncing the poſſeſſion with the ſame breath that accepts it, or, rather, before it is acquired. Does not the ſtatute law ſay, that the renunciation of property requires a ſeparate deed from that which granted it? And will not the ſolicitor of the ſtamp duties ſay, His Majeſty's revenue muſt not be hurt by the by-law of any little ſubject?

It is not poſſible, upon any principle, to juſtify ſuch a clauſe as that under review, particularly where the proprietor uſes no diſcretion in preferring the tenant, except by the extent of the offer. Following out the rule, why not allow the tenant the ſame privilege to tranſfer his leaſe to the highest bidder? No; it would be going too far to tranſfer the bad practice of the maſter in letting his lands, to the tenant in ſubſetting them. I have no pretenſions to compete with the framers of that leaſe; but it occurs to me, that a clauſe to the following effect would be better calculated for a fair contract between landlord and tenant.

'But

'But in the event of the tenant, or those succeeding him in this lease, becoming bankrupt, and not effecting a settlement with his or their creditors, or a discharge in terms of the act of Parliament of the 33d year of his present Majesty, or any subsequent act of the same nature, or executing a voluntary trust-conveyance for behoof of his creditors, on account of inability to pay his debts, or becoming unable to implement and perform his part of the conditions of this lease, then the lease shall be exposed to public sale before the judge-ordinary, and the highest offerer preferred; it being a condition, that the sale shall be advertised in such newspapers, for at least four weeks, as the judge-ordinary shall appoint; and that every intending offerer shall lodge a note with the clerk of the sale, signifying his intention to offer, ten days at least before the roup; and, if required, shall produce evidence, or other proper recommendation, to satisfy the judge-ordinary of the propriety of admitting him as a tenant, should he be the highest offerer; and the proceeds of the sale to be applied, in the first place, to discharge every claim competent to the landlord upon the lease, and the expenses in conducting the sale; in the second place, to the payment of the tenant's debts; and, in the third place, the surplus, if any, paid over to the tenant, his heirs, executors or assignees.'

When I sat down to write this letter, I had no intention of committing my ideas upon the lease in question to paper, further than what occurred in reading the letter from Laurieston; and though I have gone further, and I hear a monitor telling me that I have said too much in my first essay, yet should you approve of, or consider all, or *any part* of these observes, worth a place in your Magazine, I may afterwards trouble you with my opinion upon the remaining conditions of the lease.

I am, Sir, your most obedient servant,

Dumfries, 17th October, 1808. X. S.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Improvements on the Duke of Buccleuch's Estates, viz. Straightening and Widening of Rivulets—Sheep Bridges—Exclusion of Black Cattle from the Sheep Walks—Stells—Irrigation.

SIR,

BY inserting, in your Magazine of July last, my account of Surface-draining on Sheep Farms, and Mole-catching, as practised on the Duke of Buccleuch's estates in the south of Scotland, you have laid me under the obligation of fulfilling my promise with respect

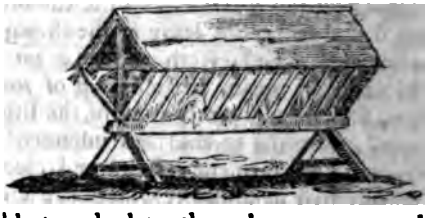
respect to some other improvements equally useful. Let me observe, then, in the first place, those that were suggested by draining and mole-catching.

As one improvement commonly leads to another, so the draining of sheep-walks, in wet soils, naturally led to straightening and widening the course of rivulets. This was found necessary for two reasons; 1st, to contain the additional quantity of water, so as to prevent the grass on the sides of the rivulets from being sanded by the floods, and thereby rendered unfit for hay; and, 2dly, to remove what was generally considered one of the causes of rot, namely, the rich soft grass which such frequent top-dressings of mud commonly produce, and which, being greedily sought after by sheep in the end of the season, commonly proves hurtful. But although the straightening and widening of drains was seen to produce these good effects, it was found to be attended with some serious inconveniences; for their width, in many places, obstructed the sheep-walks, so that the weak durst not cross them, and the strong, when attempting it, were sometimes drowned, especially after rains, or the break of a storm. Nor was this all; for ewes heavy with lamb were often injured by them; and not unfrequently have the lambs themselves been drowned, when attempting to cross them after their mothers. A sense of interest, therefore, as well as humanity, led the farmers to provide a remedy; and that which naturally suggested itself was the conſtruction of bridges, in every place throughout the farm where they were judged neceſſary. Nor are theſe expenſive; for two rude planks laid acroſs the ſtream, and covered firſt with bruſhwood and then with turf, are all that are requiſite; or, if the rivulet be large, it is found neceſſary to ſecure the permanency of the bridge by land-breaſts of wood or ſtone, or both intermixed. Theſe give the ſheep eaſy acceſs to all parts of the farm; and, what is certainly of the greateſt conſequence to the flock, the ſhepherd is never barred from attending them, whenever his preſence is thought neceſſary. On a ſingle farm in the pariſh where I reſide, there are not fewer than 35 bridges of the one or other of theſe deſcriptions. Another improvement ſuggeſted by draining and mole-catching was, the excluſion of black cattle from the ſheep-walks. With regard to the reſpective kinds of ſheep which a farmer ſhould keep, or the particular mode in which they ought to be managed, the Duke of Buccleuch never interferes; for, like every other enlightened proprietor, he truſts theſe to the good ſenſe of his tenantry, being fully perſuaded that their own intereſt will naturally lead them to keep ſuch ſtocks, and adopt ſuch management as will in the end be the moſt productive. But he has ſeen the bad effects of mixing black cattle with

with ſheep on wet lands, and therefore reſolved, that, if kept by the farmer, they ſhall be kept diſtinct. Thus, the ſurface drains are preſerved from deſtruction; the grounds ceaſe to be poached; and the rich ſweet graſs which that poaching occaſioned, eſpecially at the end of the ſeaſon, and which was ſo hurtful to ſheep on wet ſoils, is thereby prevented. Every farmer whoſe lands are ſoft and boggy alſo knows, that clean paſtures are abſolutely neceſſary to the health of ſheep, and that grounds fouled with the feet of black cattle, or ſoiled with their dung, are exceedingly noxious.—Such were the improvements which ſurface-draining on ſheep farms, and the catching of moles, naturally ſuggested. But before leaving the ſheep farms, there is one improvement, which, from its very great utility, ought not to be overlooked; I mean, the building of *ſtells* in different parts of the farm, for the accommodation of the ſheep. Theſe are of different forms, according to the uſes intended by them, or the different ſentiments of farmers. Belts and clumps of planting have long been adopted in the lower diſtricts; but the ſtells which I have chiefly in view, are thoſe erected in high ſituations; which may be divided into what are provincially called black-weather ſtells, and ſtells adapted to the winter ſnows. The black-weather ſtells are commonly in the form of ſemicircles, with their backs to the weather, ſo that the ſheep can find ſhelter behind them. Hence they are often called C ſtells; and not a few are made like the three legs of an Iſle of Man halfpenny; ſo that, whatever way they are ſet down, or the wind ſhall blow, the ſheep can lye with comfort behind them. Theſe, from their particular figure, are often called Y ſtells. The ſtells adapted to the winter ſnows are of different kinds. The old form of the ſquare is now diſcarded, as liable to fill with ſnow; and rounds or circles of various ſizes are in general uſe. Experience hath taught that they are free from the faults aſcribed to the ſquare; and being built of dry ſtones, from 5½ to 7 feet high; from 30 inches, or 3 feet, in the bottom, to 16 or 20 inches at the top; and from 15 to 25 yards diameter, according to the ſize of the flock, they are both durable and uſeful. Several of the farms in my neighbourhood have from 8 to 12 of theſe rounds. As taſtes differ, and the objects of different farmers are various, ſo ſome to the circle join an arm like the letter I, thus but moſt prefer the letter Y, thus . The intention of which additions is, both to ſerve as a wear to the ſheep when they are wiſhed to enter the round; to combine the advantages of the ſummer and winter ſtells, by affording them ſhelter, at times, from the wind and rain; and to prevent the hay from being carried off by the wind, when they

are

are obliged to fodder in time of ſnow. Perhaps an improvement upon theſe compound ſtells might be, to disjoin the I or Y from the O, and to hang a door between them. It would anſwer every purpoſe of the preſent form, with this additional advantage, that it would give an eaſier communication with the different parts of the ſtell; and by opening or removing the door from its hinges, would allow the driſt to whirl round the circle without the power of accumulating. The arms of ſuch ſtells commonly point up hill to increaſe the ſhelter; and a quantity of hay is frequently ſet down in their immediate neighbourhood. Some of the farmers have alſo a covered heck, of the ſhape here given, ſtanding in the middle, or at the ſide of the ſtell, which is conſidered a great improvement, as the ſheep can eat out of it in ſucceſſion, without waſting the hay. Indeed, it is impoſſible to calculate the advantages attending this mode of management; for the ſheep are kept in places of ſecurity; they have the power of hay when the ordinary paſtures are locked up, and the ſhepherd and his maſter can ſleep in comfort. Nor ſhould it be forgotten, that the practice of flying to lower grounds is thereby prevented, where they were half ſtarved while away, half drowned in coming home, and the farmer's purſe often wholly emptied. In the year 1802, there was a general flying. Every part of Annandale, Nithſdale, and the lower part of Eſkdale, that could take in ſheep, was completely filled from Crawfordmuir, Tweed-head, Yarrow, Etterick, Eſkdalemuir, the head of Tiviotdale, Ewis, and Liddiſdale; and had the froſt continued eight days longer, there would have been abſolute ſtarvation. One farmer in my neighbourhood paid above 100l. that year for ſnow-mail; and, ſince 1794, ſome of the ſtocks have been five, and others ſix times away on the ſame diſagreeable errand. Indeed, the places to which they flee are becoming more ſhut up againſt them every year by their extended encloſures; and this, perhaps, has contributed much to the late general adoption of ſtells, and the different methods of raiſing hay. For, if a ſtone weight of 24 lib. avoirdupois be barely ſufficient for a ſcore per day, what muſt the quantity requiſite for a large farm be? Generally ſpeaking, the farmers never conſider themſelves as completely ſafe, unleſs they have a year's hay beforehand, which, if not needed for ſheep, can be eaten by black cattle.



Having mentioned all I think neceſſary on ſheep farms, I ſhall next advert to the newly adopted mode of improving land by *irrigation.*

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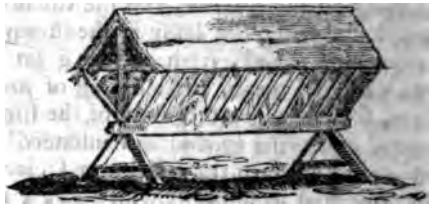

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comes on porter, and goes off ſmall beer. Such is the way in which catch-work is made. It is always upon a declivity; and ſeldom coſts more than 5s. or 6s. per acre Engliſh, provided that there has been no levelling.

But *flat-flooding* is both more intricate, and more expenſive; and here it is that the ſkill of the flooder beſt appears. When called to a field, the firſt thing he does is to take the level, and ſee what quantity of water may be brought. This determines the ſize of the field; for flat-flooding requires a great quantity of water; and much expenſe, as well as diſappointment, may be incurred, without attending to it. Here Mr Stephens truſts always to his eye, and laughs at ſpirit levels; but I have known caſes where he has rather been diſappointed. It is but juſtice however to ſay, that he has a remarkably exact eye; and few flooders, if any, of as extenſive an employ, can boaſt of having committed ſo few miſtakes. Having aſcertained thus the command of water, and the largeneſs of the field, the next thing he does is the ſtaking it out by means of pins; firſt, the maſter-conductor; then the feeders; and, laſtly, the tail-drains: ſhifting always the pins till the whole field has been properly divided. It is impoſſible to commend too much the talent he poſſeſſes of adapting the feeders and drains to the varying ſurface of the meadow; for two fields are ſeldom alike, and yet every part muſt be completely watered. Hence they are ſometimes ſtraight, and ſometimes ſerpentine; ſometimes all regular flat-flooding, and ſometimes interſperſed with pieces of catch-work. Yet theſe are all ſtaked out, and the effect preſent to the eye of his mind, before a ſpade is taken. After ſtaking, the next ſtep is the forming of the different parts. With reſpect to the *maſter-conductor*, it muſt be of that ſize as to contain the water eaſily, and of ſuch a declivity as neither to be run into holes by the too great celerity of the ſtream, nor filled with mud by its too great ſluggiſhneſs. This maſter-conductor paſſes from the river in an open channel along the upper ends of the feeders, and gives to each its proper quantity. The *feeders*, which are always along the crowns of the ridges, are formed like the feeders in catch-work; with this difference, that the ſods and ſoil are laid on either ſide, and their width and depth are in exact proportion to the quantity of water they are meant to hold. Thus, they are wideſt and deepeſt where they join the maſter-conductor, and always decreaſe in their dimenſions as they depart from it. Their very contraction, therefore, commonly ſerves in place of the ſtops uſed in catch-work; but when they go down any conſiderable declivity, they have ſtops, both to check the rapidity of the current, and to diſperſe the water equally on either ſide. As the feeders run along the crowns of the ridges, ſo the

tail-

tail-drains run along the furrows, and are the exact counterpart of the feeders; for, whereas the feeders are largeſt at the upper end of the field, and diminiſh as they approach the foot of it, the tail-drains are narroweſt at the upper end, and increaſe in ſize as they reach downwards. The reaſon of this difference is, that the tail-drains are intended to receive what the feeders are conſtantly diſcharging. And ſhould there be a ſcarcity of water for any particular part of the field, it ſometimes happens that this is corrected by turning the neighbouring tail-drain into the feeder that ſupplies that particular part by means of embankment, thereby giving it its proper quantity. When the field has been thus laid out and formed, a bank is thrown acroſs the river, the water is raiſed to the proper level, is conveyed along the maſter-conductor, diſperſed among the feeders, and collected again by the tail-drains, ſo as to be emptied into an adjoining river or rivulet. Should the quantity of water which can be commanded be found defective at ſome part of the ſeaſon, it is not unuſual to have ſmall ſluices at the heads of the principal feeders, to exclude it from ſome, and admit it to others, as the flooder thinks fit. It is not always eaſy to fix, as a general rule, the proper declivity, either along the crown of the ridge, or from the crown to the furrow; but, from the obſervations I have made, and they have not been few, I believe Dr Singers's calculation to be pretty accurate. He mentions one inch for every nine yards, as the declivity of the feeders along the crowns of the ridges; and two inches for every yard, as the proper declivity from the crown to the furrow. The width of the ridges is alſo various, but the narrow are reckoned the beſt; becauſe the water on them is not ſo much impoveriſhed as on thoſe that are wider, and conſequently the crop is heavier: the only drawback is the additional expenſe. With reſpect to the expenſe of forming a meadow for flat-flooding with the ſpade, it varies conſiderably, according to the quantity of levelling. I know ſeveral that coſt 3l., 4l., and 5l., and one that coſt 7l. per acre; but the average is commonly computed to be about 5l. This expenſe, however, will be much reduced, if the field intended as meadow ſhall be gathered by the plough into ridges of the proper form, and ſown with graſs ſeeds. The mere cutting of the feeders and drains, in that caſe, will be comparatively trifling. It is eaſy to ſee that, in flat-flooding eſpecially, a part of the ſediment will fall to the bottom of the feeders; and that, at the end of the flooding ſeaſon, ſome of theſe feeders will be conſiderably choked up, eſpecially if the water applied ſhall be rich in quality: hence the practice of cleaning them annually before the water be introduced. But this is not an expenſive operation; for the cleaning out and keeping the meadow in annual repair is commonly

commonly calculated at 5s. or 6s. per acre Engliſh, barring accidents. Let it be remembered, that the expenſe of flooding, as well as the formerly mentioned improvements of ---face-draining and mole-catching, is ſolely defrayed by the tenant: Nor is it done reluctantly; for, although it were leſs productive than it really is, they would cheerfully undertake it to ſatisfy his Grace of their reſpect and gratitude.

I have heard many diſputes, and read a good deal, on the kinds of water beſt ſuited for irrigation; but I have reaſon to know, that any water will pay for catch-work, if in ſufficient quantity; whereas good water only will pay for flat-flooding. Yet I am not inſenſible to the comparative merits of the different kinds. Spring water gives an early bite for ſheep. Calcareous ſprings are beſt for paſture; and ſediments of mud or clay, the drippings of dunghills, and the refuſe of villages, commonly inſure a heavy hay crop. Even moſs water itſelf, which has been ſo much reprobated, has been found by many not to be without its uſe. It is a pleaſant circumſtance attending this ſpecies of improvement, that its effects are ſoon ſeen. Fog is deſtroyed, the tough red ſod is converted into a rich black mould, and better plants make their appearance. With reſpect to the times of applying the water, they are various according to the views of the farmer. Perhaps he is in general too late; for, if the deſire of making the moſt of the foggage did not prevent, one would be led to think that, in place of waiting till November, the beginning of October would ſuit better. The meadows, in that caſe, would receive the dung which the ſheep and black cattle had depoſited on the hills in the ſummer and harveſt months, and which is allowed to paſs, by the preſent management, without any other benefit than that aſſigned by the vulgar, of giving food to the fiſhes. So long as the weather continues mild, the water is allowed to remain on the meadow, and ſome have even recommended its continuance during froſts: but experience will ſoon convince them of their miſtake; for the cake of ice is ſeldom general; the water, in place of being equally diſperſed, burſts out in different places, to the injury of the drains and ſurface; and ſometimes, when the owner leaſt expects it, a thaw comes, and drives every thing to confuſion. It is better, therefore, to remove it on the appearance of froſt, and apply it again at the approach of ſpring, when it ſhould continue till the end of March in low ſituations, and the end of April in hilly diſtricts; at which times, a ſtrong vegetation appearing, it is found prudent to finiſh the proceſs.

The important advantages of water-meadow, when properly attended to, muſt be obvious to every practical farmer. If he has a ſheep ſtock, he can lighten it much in ſpring, by bringing what

is

hought proper into the meadow. It is commonly a month ier than the hill pasture, and may be of immense advantage to y lambs in a late spring. When employed in pasture during summer, it commonly pays remarkably well. It is a rich dressing, at little expense. Or, if hay is preferred, it is easy ee the vast resource afforded, whatever be his views. An age crop is estimated, by Dr Singers, at 150 stones per , of 24 lib. avoirdupois; and the hay produced on the whole er-meadows on the Duke's estate, at 60,000 stones *per annum.* r this, when given to black cattle or horses, must turn to considerable account; but, to sheep proprietors, the value ıcalculable. At a stone to the score, which is the com- calculation, it will feed 60,000 sheep for twenty days, and ensure a continuance of nourishment to these useful animals he return of thaw, or till some other method be fallen upon heir relief. Nor will the value of the foggage be overlooked, e farm stock of different kinds may thereby be benefited. But the farmer beware of introducing water, especially in au- n; for twenty-four hours floating will rot his sheep. The lish improvers of sheep stock know this well; therefore, revent the butcher from selling to breeders at a high price, : was bought for fat at a low, they often turn them into the low before they go away, with the intention of tainting them. not pretend to assign positive reasons for this effect of the r in harvest, although several have been given. Perhaps ıy be, as some have said, that the eggs of the flukes, which fterwards found in the livers of rotten sheep, are conveyed by vater; or, according to others, that the soft, rich, sandy grass h the water produces, may create a tendency to that com- t, when eaten before the dry, sapless grasses of winter. But hing is certain, that the malady is occasioned by the water in st only; for all flooders uniformly agree, that sheep may pas- on water-meadows in spring with perfect safety. The only tion to water-meadow is, the constant care it requires; but s got over, in several places, by the appointment of overseers, for a trifling expense, superintend the meadows within their ı. Were it possible for this practice to become general, it d be more in favour of water-meadows than can well be ex- ed; for, in several instances, I have known the indolence, umerous avocations of the farmer, more to blame for a bad than the unfavourableness of the season, or the barrenness e soil.

ıere is only one thing more concerning irrigation which I deem nsequence to be communicated to your readers before I have ; and that is, the soil which experience has shown to be most

benefited by irrigation. It may safely be asserted that all soils, even the richest, will be profited by water; but, in districts where haugh or holm land does not predominate, and where the water does not come loaded with nutritious particles, as in the manufacturing districts of England, it will be matter of consideration with the farmer, whether it will pay better by watering, or under the plough. Several who have made trials incline to the latter opinion; while they readily admit that sour, wet land, which needs to be drained, and which the conductor, feeders, and tail-drain naturally effect; or light, gravelly soils, which require both earth and moisture, are astonishingly benefited. It was for want of this discrimination, and also, I believe, from want of water and want of care, that several of the first formed meadows in Scotland have been restored to the plough; but they have done no injury to the watering system. On the contrary, they have done good; for they have created caution in the formation of meadows, and care in the management of them.

I am far from having exhausted the improvements which the Duke of Buccleuch has introduced on his estates in the south of Scotland; but I have already occupied my full share in your present Number; and shall therefore only add that I am, Sir, &c. W. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I take the liberty of handing you a copy of the resolutions of a general meeting of Roxburghshire farmers, on the subject of the property tax, which they request may be inserted in your Magazine. It would be obliging to the farmers, were these resolutions either inserted at length in your earliest Number, or such notice taken of them, as may serve to promote the cause which the farmers have espoused. I am your obedient servant,

Courthill, near Hawick,
25th Aug. 1808. } THOMAS USHER.

Resolutions of the Roxburghshire Farmers on the Property-Tax.

At a general meeting of the Farmers of the county of Roxburgh, held at Jedburgh on Tuesday the 16th of August 1808, ANDREW PRINGLE, farmer at Mossburnford, preses, it was nanimously *resolved*,

I. That by the property-tax act it was intended to impose a tax of *not more* than ten *per cent.* on any description of profit or income.

II. That

II. That by assuming a sum equal to one half of the rent payable to the proprietor, as the profit of every farmer in Scotland during the first seven years of a lease, and assessing the property-tax according to that rule, very many farmers in Roxburghshire, and, they believe, in every county of Scotland, are subjected to the payment of *more* than 10 *per cent.* upon their income.

III. That by estimating the income of every farmer in Scotland, after the first seven years of his lease, to be equal to the amount of one half of the rent payable to the proprietor, and to the further amount of the additional rent, and one half of the additional rent at which his farm might then be let upon a new lease, and assessing the property-tax according to that rule, almost every farmer in Roxburghshire, and, they believe, in every county of Scotland, after the expiration of the first seven years of his lease, is assessed for a greater income than he actually enjoys; and that part of his capital, also, which has been expended on the improvement of his farm, is subjected to the tax as well as his profit; because the capital so expended can only be replaced to him in the form of profit, by the increased value of his farm during the remaining years of his lease.

IV. That in the present state of farming in Scotland, no average computation of farm profits, proportioned to the rent of farms, can come near the truth, when applied to individuals; the profits of farmers being not less various and unequal, in proportion to their rents, than the profits of merchants and manufacturers, in proportion to their capitals, or the extent of their commercial transactions; and there can be no good reason why the property-tax should not be assessed upon farmers in the same manner as upon every other class of the community, according *to returns* of income made in the first instance by themselves; nor can there be any reason to apprehend that the revenue would suffer more from fraudulent or evasive returns in the case of farmers, than in that of any other class of men. If a farmer should make an unsatisfactory return, and could not, from his books or otherwise, satisfy the commissioners that it was correct, there is perhaps no description of income, that of a landholder excepted, which might be so easily estimated by impartial apprisers as the income of a farmer, the subject from which his income is derived being open to inspection, and incapable of being concealed.

V. That no other class of men are liable to pay property-tax without having *some income*, or to pay a higher rate than 10 *per cent.* upon their *real income*; but by the law, as it now stands, the farmer is liable to pay property-tax in proportion to the rent or estimated value of his farm, *without regard to his real income*;

and can get no abatement or relief, even though he may have *no income*, or may be *an actual loser*.

VI. That the meeting cannot conceive it to have been the intention of the Legislature to make the property-tax fall with more severity upon the farmers than upon any other class of the community; and are hopeful that, upon the effects of the present mode of estimating their profits being properly represented, the law will be so far altered as that the property-tax may in future be assessed upon them, as upon every other class of the community, *according to real income*, instead of the present *hypothetical and unequal rule* by which some farmers are assessed who have no income, and almost every farmer is assessed for a greater income than he actually enjoys.

VII. That having stated the hardship of their case in a memorial to the Lords Commissioners of his Majesty's Treasury, and having received intimation that their Lordships do not think it advisable to recommend to Parliament to alter the present mode of estimating the profits arising from the occupation of land, the farmers of Roxburghshire will now, either by themselves, or in concurrence with the farmers of other counties in Scotland, present a petition to Parliament, or adopt any other constitutional measure that may be judged proper for obtaining an alteration of the present mode of estimating the income of farmers; and they will be happy to receive communications on this subject from the farmers of other counties, which may be addressed to Thomas Usher, farmer at Courthill, near Hawick.

The meeting appoint Adam Walker, farmer at Mellendean; James Hogarth, farmer at Baillieknow; Thomas Thomson, farmer at Attonburn; Andrew Pringle, farmer at Mossburnford; Peter Brown, farmer at Newton; John Riddell, farmer at Timpendean; William Turnbull, farmer at Burnfoot; James Grieve, farmer at Branxholmbraes; Thomas Scott jun. farmer at Northhouse; Andrew Blaikie, farmer at Holydean; Andrew Thomson, farmer at Bewlie; James Robson, farmer at Greatlaws; John Elliot of Whithaugh, and Thomas Elliot, farmer at Kirnton, a committee of their number, to correspond and advise with John Rutherford Esq. of Edgerston, Member of Parliament for the county of Roxburgh, * on the subject; and either to concur with the farmers of other counties in a petition to Parliament, or to draw up a separate petition for the farmers of this county, as may be thought most advisable, and in general to attend to and manage

* Since these resolutions were entered into, the landed gentlemen of Roxburghshire have agreed to petition Parliament for amending the property-tax act, in so far as farmers are concerned.

nage this business in their name; and they authorise their committee to transmit copies of these resolutions to all the Members of Parliament for the counties and burghs of Scotland; and to request the united influence and exertions of the landholders of this county for obtaining an alteration of the present mode of estimating the profits arising from the occupation of land; and to publish these resolutions in all the Edinburgh newspapers, the Kelso Mail, and such other English or Scotish newspapers as the committee may think proper.

The Meeting wish it to be distinctly understood, that they approve of the principle of the property-tax. It is not a tax of 10 *per cent. upon their income of which they complain. They complain only of being assessed according to a* hypothetical and unequal rule, *by which the profits of farmers are estimated to be much greater than they really are, while every other class of the community is assessed according to returns of real income. The object at which they aim, is only to be put upon the same footing with their fellow-subjects. Were that done, the property-tax would meet with their entire approbation, and they would pay it cheerfully, whether at the present rate of* 10 *per cent. upon their income, or at any other rate that may be found necessary for the support of government, and the defence of the country.*

NOTE BY THE CONDUCTOR.

THOUGH eleven farmers out of every twelve have always considered the criterion adopted by the Legislature for assessing them under the Property-act, as arbitrary, inconsistent and oppressive; yet it must be noticed, that their complaints have seldom been publicly expressed. Even when influenced, by the severity of the act, to state its oppressive tendency, their applications for redress have been couched in the mildest and most respectful terms,—rather supplicating relief as a favour, than claiming the right of being assessed upon the same principles as affected all other members of the community. It is not difficult to assign causes for this moderate and pacific conduct. The farmers are a loyal body of people, and seldom disposed to trouble the ruling powers upon public matters. Unlike the mercantile and manufacturing interests, farmers in general patiently submit to every legislative enactment; considering the slightest opposition to the measures of government as savouring of disloyalty. We do not mean to defend this pusillanimous conduct, being satisfied that the occupiers of land have as much interest in the welfare and prosperity of the state, as any set of men whatever. It is enough for our argument, that reasons such as these have hitherto influenced farmers, almost in every district, to keep silence under the operations of the Property-act. The ice, however, being

now broken, and that by a body of men whose loyalty and integrity are unquestionable, it is fair to presume that meetings will instantly take place in every county, and that the laudable and meritorious measures of the Roxburghshire farmers will be strongly backed by their brethren in other districts. Though relief has not been obtained from the applications of one county, it is morally impossible that it could be refused, were applications to be general, especially if supported by the landed interest, which fortunately has happened in the county whose resolutions we are now considering.

So much has been urged in this Magazine, at different times, respecting the injustice of estimating the gains and profits of farmers according to the extent of their rents, that little remains to be stated on the present occasion. Upon the general question, namely, whether the gains and profits arising from farming are equal to one half of rackrent, we presume every man, who is practically acquainted with the hazards and expenses which attend farm-management, will at once answer negatively. Indeed, we have not at any time heard an argument in defence of the rule, hastily assumed by the Legislature, whereby farmers were to be assessed, except that it was a very convenient one, and that, under its operations, more money could be levied, than by fairly resorting to gains and profits actually received and enjoyed. Thoſe who take up this ground of defence, undoubtedly do not do much honour to the act, becauſe its injuſtice is indirectly admitted, by acknowledging that more money is levied in this way than could be procured by adopting any other. It is preciſely upon this ground that the act is objected to by farmers. They ſay that their gains and profits are not equal to one half of rack-rent; and that injuſtice is committed, for no better reaſon, than that conveniency may be promoted. If this is the caſe when the queſtion is conſidered generally, what muſt the reſult be when the rule is applied to individual caſes—to the poſſeſſors of good land, and to the poſſeſſors of bad land—to thoſe who have good bargains, and to thoſe who have bad ones—to the occupiers of graſs land, and to the occupiers of corn land? In a word, no general criterion can be juſt, when applied to the profits or gains of a profeſſion whoſe numbers are ſo great, and whoſe talents are ſo diverſified. Were the criterion to be correct in one caſe, it muſt undoubtedly be falſe in every other.

Independent of the arguments which occur againſt aſſuming one half of rack-rent as the ſtandard of gains and profits, the hardſhip which ariſes from valuing land at the end of ſeven years muſt be particularly conſidered. Let us ſuppoſe that a farmer takes land for twenty-one years, and that the rent which he covenants

y is not the rent which the farmer is capable of paying for
i years, *but the rent which it is capable of paying during the
nuance of the leaſe;* or, more properly ſpeaking, after the
is meliorated and improved. Was half rent, therefore, to
e true criterion of profits, it would clearly follow, that no
tion ought to take place during the currency of the leaſe,
eby the diſadvantages at its commencement would, in ſome mea-
have been compenſated. According to law, however, no ſuch
enſation can be given. The firſt year of every leaſe ſeldom
ds any income, the tenant living, at that time, on his capital
. In the ſecond year, his condition is not much mended; nor
natters placed upon a fair footing till the ſixth year, when it
be ſuppoſed that the whole farm is completely ſummer fal-
d, and reſtored to good condition. Though it is well known
the moſt of tenants, when executing thoſe renovating mea-
, have barely income ſufficient to purchaſe meat and drink to
ſelves and families, yet the property-act conſiders them as
ing ample incomes (ample they muſt be, according to the
iples of the act, now when rents are ſo high), therefore di-
that they ſhall be taxed accordingly. All this might be view-
very fair, was the tenant permitted to reap the fruits of im-
ements, without being ſubjected to additional taxation. The
however, gives no ſuch permiſſion. It directs, that when
arren years are over, *i. e.* at the end of ſeven years, a freſh
tion ſhould be made, and that the farmer ſhall be taxed at no
rate than fifteen *per cent.* of the increaſed worth of his farm,
ly, five *per cent.* as tenant, and ten *per cent.* as ſtanding in the
of the landlord. This we conſider to be the moſt grievous
re of the act, though the effect of the clauſe which contains
not at this time fully felt. In fact, it cannot be fully felt till
, when its miſchievous conſequences will be completely aſ-
ined.

it why ſhould any general rule be aſſumed for aſcertaining the
and profits of farmers, when common ſenſe ſays that ſuch
eral rule is a contradiction in terms? The profits of farmers
more variable than the profits of merchants, depending much
upon phyſical circumſtances, not to be controuled by the
induſtrious huſbandman. The leaſe of the farmer is no more
gible mark for aſcertaining gains and profits, than the invoice
e merchant, or the bill of lading of the ſhipmaſter. The
er is expoſed to more loſſes than the merchant. With reſpect
d debts, both are alike; but, in every other inſtance, the
rds which encompaſs the farmer, greatly exceed thoſe which
ttendant upon mercantile people. His wheat may be mil-
d; his live ſtock may be attacked by murrain, and other

...ral disorders; and his corn fields may be ſcattered and ruined by ...g winds and heavy rains. Notwithſtanding theſe circumſtances—notwithſtanding that he may be beggared and ruined—or actually ſpending in his pocket, and, in ſhort, in a ſtate of poſitive poverty, the act ſtill conſiders him as enjoying a ...ed full income. It gives him no allowance or deduction, ...were he diſpoſed to be ſatisfied by the fulleſt evidence and ...s. Why farmers are treated in this way, we are at a loſs ...rm. Very different treatment is given to merchants and ma...facturers: they are allowed to prove a loſs, and to receive re...ef proportioned to it.

...ſtem is wrong, even as it applies to merchants and ...facturers. By permitting each man to aſſeſs himſelf, it ...s a door open for fraud, by which the covetous and ...ſhonourable. The principle of the act is a good one, when ...ed to real gains and profits; and we would wiſh to ſee it ...ed in execution in a more plain, equal, and diſtinct manner ...ſhall be found practicable. At preſent, landed proprietors may ...ſay not is ſtrictly and fairly taxed; becauſe, while farmers ...ſpect much, there is ſome reaſon to think that merchants, ...ufacturers and others, pay too little. This ariſes, in a great ..., from their being allowed to tax themſelves; and ...ould be ſtrange were farmers to receive a ſimilar permiſ...We ſhall, no doubt, be aſſeſſed, in the firſt inſtance, by a ...; but ſome amendment of great importance would be made ..., provided it was expreſsly declared that the power ...s were reſerved in the fulleſt manner to every individual. ...ſcheme was, in 1803, ſubmitted to the conſidera...of his Majeſty's miniſters, who did not chuſe to adopt it, ..., we believe, from the ſlight proportion then ſhown to the ...ſtate. We cannot better ſtate it preſent to our readers an ...ſtract of the memorial, taken from a copy communicated ..., which may well bear the ſevereſt approbation.

...ſcheme, above mentioned, is a fair and equi...meaſure. The principle of the bill paſſed laſt ſeſſion, is, ...every ſum of 100 pounds ſterling, or ...ſo, a certain part thereof to government. The ...ſtion is, whether every perſon, certainly, every perſon ...ſe property is regulated government, ...ſhould contribute to the ſupport of it in a degree proportion...to the extent of his means and property.

...ſtead of the overplus of 150, the principle laid down ...ſhould be, that property is totally departed from in ...ſtead of which requires the aſſeſſment to be made upon ...ſum which is directed to be aſcertained by a rule

which

which is vague, arbitrary and inconclusive. The rent stipulated to be paid to proprietors, is assumed as a fair criterion for ascertaining the income of occupiers; though every man, in the least degree acquainted with rural matters, knows that such a criterion is altogether fallacious and unfounded. Land naturally rich, pays a greater share of its produce by way of rent, than what is of inferior quality, because the expense of cultivation is not so great, whilst the produce is of superior value. Besides, the income of tenants or farmers can in no case be considered as equal to one half of rack-rent. In the way that the act has been explained, few tenants have this year been assessed at less than ten *per cent.** upon their incomes; many have been rated so high as twenty, and even thirty *per cent.*; and others, such as tenants who have recently entered to farms, have been returned as enjoying affluent revenues, when, in fact, they were living upon their capital stock. In short, such a tax, at any other time than the present, would have kindled a flame which would not soon have been allayed.

"To remove such a flagrant evil, and to place cultivators of the soil upon the same footing with other classes of the community, seems not only an act of justice, but a measure called for by every motive of expedience and propriety. To further these salutary ends, the following rough sketch of a plan for assessing and collecting the property-tax, is humbly submitted to his Majesty's ministers. Perhaps some parts of the plan might also be usefully adopted with regard to merchants and manufacturers. But, be this as it may, the amount of a five *per cent.* tax upon agriculture will justify the passing of a separate bill for regulating the assessment to be made upon that particular branch of property.

"It is proposed that the act of last session, so far as it affects the proprietors and occupiers of land in Scotland, shall be repealed, and a new bill introduced into Parliament for regulating the mode in which their contributions are in future to be levied. It is recommended in the most strenuous manner, that the bill be concisely worded; that tautology be avoided; and that each clause be couched in terms so distinct, that every person who can read the English language, may at one glance comprehend the meaning thereof. It will be recollected, that the bill is to operate upon people who cannot generally be considered as well qualified to develop the intricacies of multifarious and complicated enactments.

"2. The commissioners for executing the act, may be chosen in the same way as directed by the act of last session; but it will be useful to add three or more actual farmers to the number therein

* The tax was only five *per cent.* upon income when this memorial was written.

in ſpecified, ſo as the Board may be ſufficiently inſtructed in the nature and extent of the profits to be charged upon occupiers. No qualification of property to be required from theſe additional commiſſioners; nor ought they to ſit in judgment when any other matters, except ſuch as relate to aſſeſſments upon proprietors and occupiers of land are under conſideration. The Board thus compoſed, ſhall appoint their clerk, collector, and ſuch a number of aſſeſſors, as the extent and population of the diſtrict under their direction may require. In general, it may be obſerved, that aſſeſſors ſhould be choſen who are well acquainted with the diſtrict to be put under their charge: that they ſhould either be land-ſurveyors, land-ſtewards, or actual farmers, and of knowledge and integrity. The propriety of reſtricting the aſſeſſors to theſe claſſes, will be diſcernible, when an after point is conſidered.

" 3. The tax for 1804, and ſo on, to be aſſeſſed upon the rents and profits of 1803; that is, proprietors ſhall be charged according to the rents payable to them in 1804, for crop 1803; and occupiers of land ſhall be aſſeſſed according to the extent of profits or gains actually made by them upon the premiſes during the preceding year,—after rent, expenſes of cultivation, money laid out upon repairs, or in purchaſing manure, is deducted. The horſe-tax alſo to be deducted from the occupier's aſſeſſment; and land-tax, miniſter's ſtipend, and poor rates, allowed to thoſe who actually bear theſe burdens. The occupier to be free of tax in the firſt year he poſſeſſes, it rarely happening that profit or gain can be acquired at the outſet.

" 4. An intimation to be made by the aſſeſſor to proprietors or their factors, requiring a liſt of their ſeveral rents; and, in caſe of no return being made, the aſſeſſor ſhall value the land himſelf, and charge the proprietor for his trouble in doing ſo, along with the aſſeſſment to be levied. When returns of rents are made by proprietors, aſſeſſors may call, if they ſee cauſe, for a production of leaſes, or other writings, under which the lands are poſſeſſed. Appeals may be made againſt the aſſeſſments, if ſuch exceed the returns made by proprietors, or if they are made from *ex parte* valuations; and for abatements on account of public burdens.

" 5. In the caſe of occupiers, the aſſeſſor, after ſtrictly inveſtigating the premiſes occupied, the mode in which the land has been managed, and other circumſtances which tend to aſcertain the profits or gains thereupon, ſhall proceed to aſſeſs each occupier of land, agreeable to the opinion he has formed from previous inveſtigation, or from information that may have been communicated to him. Appeals againſt this aſſeſſment may be made to the commiſſioners, who may make an abatement, if ſatisfactory evidence is produced that the income of the occupier is leſs than returned by the aſſeſ-

ſor

ſor. The expenſe of farm management is now ſo well underſtood by experienced agriculturiſts, that an aſſeſſor, properly qualified, if he makes ſuitable inquiries, and reflects upon the ſtate of markets during the period in queſtion, can hardly go far wide of the real profits. If he does, the liberty of diſproving is left to the occupier, who, it is to be preſumed, will rarely be inattentive to his own intereſt, or neglect to claim the different allowances to be made. This mode of aſſeſſing is, to be ſure, a ſtrong meaſure; but, if ſtrong meaſures are not reſorted to, ſuch a tax cannot be rendered effectual. At all events, the burden, in this way, will fall infinitely lighter upon the occupier of land, than under the operation of the exiſting bill; for no aſſeſſor of common ſenſe would rate the profits of farmers at any thing like what has been done in many diſtricts by the commiſſioners appointed to execute the property act.

"Perhaps this mode of aſſeſſing might be profitably adopted in the caſe of merchants and manufacturers; at preſent, the taſk of diſproving lies upon the public aſſeſſor, who ſeldom has the means of doing it effectually."

It remains only to be added, that the resolutions of the Roxburghshire farmers are well drawn, and display something of that independent spirit which we earnestly desire to see animating farmers on every occasion. They propose no specific measure of amendment upon the act, but resolve, in general terms, that they are entitled to be put upon the same footing with their fellow-subjects. This is a reasonable and well-founded claim, which we are almost sure would have been gone into long ago, had farmers steadily and heartily sought after it. The silence so long maintained by farmers will however lessen the force of their objections at this day, and cause a removal of the grievance to be more of a herculean task than it would have been at the outset. Be these things as they may, though clear that gains and profits are in this case the alone sources of taxation, yet we are not sure whether it would be safe or prudent to take a return of those gains or profits from the persons who are to be taxed. Perhaps the preferable way would be, to assess every man, no matter what his profession may be, by a public officer, leaving, as stated in the foregoing memorial, the person assessed the right of disproving the extent of the assessment, either by parole or written evidence, before it was ratified and confirmed by the commissioners. In this way the public would be secured, while it would scarcely be practicable to oppress an individual, unless he neglected his own interest, or failed to take the necessary steps for disproving an excessive assessment. We are almost convinced, that

that something such as the plan here recommended, must be gone into, before relief from the system presently acted upon in Scotland for assessing the property-tax upon farmers can be expected or obtained. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Shell Sand.

SIR,

I HAVE understood it a very important advantage attending your valuable publication, that from you, or some of your many correspondents, the uninformed may have their inquiries solved in any branch of rural economy.

The shores, in many parts of this county, are inexhaustibly supplied with that vauable article shell sand, so pure, in general, as to be almost wholly calcareous. The farmer is in the practice, where the distance is not very great, of applying this sand as a complete substitute for lime, and to all intents and purposes as effectually for his land. The design of my addressing you is for information, whether any practice exists of converting this description of sand into lime, and, if such practice does exist, what is the process? Should the idea of converting shell sand into lime never have occurred before, I would beg leave to call it to the most serious consideration of your enlightened readers, and earnestly entreat their making known, through the channel of your Magazine, the result of their experiments. The converting this sand into lime has great natural advantages. Being on the sea, the coals can be brought for burning it at a small expense. It can be removed by sea for sale with the greatest facility; while the great expense attending the working of limestone, such as quarrying, driving, and breaking the stones, is saved. When a quantity of shell sand within the reach of the tide is removed, the first sea-storm brings a new supply in its place. In Ireland, I know, they prize this sand so much, that, where it abounds in shallow water, but not on the shore, they fish it up by means of drags, such as are used for raising ballast; and I am confident that many proprietors here might find themselves possessed of a treasure by adopting this practice, who have no idea of its existence with them at present. I have given you my thoughts on the subject very much at random; but have no doubt that it deserves the most serious attention.

Your constant reader

A. C.

Aberdeenshire, 10*th September*, 1808.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Obligation of Tenants to observe the Rules of Good Husbandry.

SIR,

A GENERAL clause, *without the smallest specification*, is pretty commonly inserted into leases, binding the tenant *to farm the lands he occupies according to the rules of good husbandry*. I understand the interpretation of this clause has often furnished subject of litigation, in your part of the country, upon leases drawing towards a close.

In the following dissertation, I intend to discuss two questions; *first*, Upon supposition of such a clause being at all obligatory, to what does it oblige? *secondly*, What ground there is for the supposition that such an *unspecific* clause imposes any obligation whatsoever?

In regard to the first question, I humbly conceive that, in sound construction of law, as applied to every other species of bargain, this clause (if conceived as creating any kind of obligation at all) must necessarily be interpreted as binding the tenant merely to follow out that kind of husbandry understood by the parties, at the time of contracting, *as good*; but by no means as inferring any obligation to such practice as should subsequently come to be considered *as constituting good husbandry* during the currency of the lease. This proposition, upon the simple enunciation of it, appears so plainly consonant to common sense, that, to one unacquainted with the various opinions which have been adopted upon the subject, it might be matter of doubt whether the truth of it had ever in fact been called in question. It is the seeming prevalence of the opposite mode of interpretation that can alone justify a lengthened discussion.

In all discussions of this kind, it is necessary to refer to established principles of general application. I consider it, then, as an established and indubitable principle, that the proper province of legal compulsitor is merely to enforce the observance of strict justice,—to enforce the fulfilment of every obligation which the one party is bound in justice to perform, and the performance of which the other party has a right to exact, as justly his due. When the compulsitor of law is attempted to be applied to enforce gratuitous claims upon liberality and generosity, the fulfilment of which no one has a right in justice to demand, the law, in such cases, clearly oversteps the bounds of its proper province; it reverses the natural order of things, destroying the existence of liberality and generosity, whose very essence consists in their being purely optional; and equally excluding the proper re-sentiment of gratitude, which can never be felt for the mere fulfilment of a legal claim.

claim. Strict justice, then, (of which the obs
no praise, but of which the breach subjects to n
tion) is the only proper object of legal com
worthy deeds (which imply a rate of performan
proportion to their praiseworthiness, the measu
of mere justice) cease to be such, so soon as
subjects of compulsion. Men can in no propri
they can only, in propriety, be exhorted to them

But though the fulfilment of mere justice is
subject of the compulsitor of law, I must furt
the necessity of human affairs has enforced the
artificial or *constructive justice* to *natural justice*;
positive bargain are held as constituting the eq
and, as such, the proper subject of legal com
without such substitution, the business of socie
ly stand still; for, it were impossible men, in
city, should reap that mutual advantage to be d
other in their mutual prestation of equivalents,
of the measure of each prestation ever liable to
should be authenticated by voluntary arbitratio
thority of regularly constituted judges, after a
tion of all the circumstances of the case. Th
necessarily presumes, that every individual, arri
of maturity, and possessed of common under
fectly competent to discern and watch over his
that in all bargains entered into with his own fr
his prestations, he has sufficiently secured th
question for the law to decide, therefore, is, nc
nature of the thing equitable, but what are the
sitive agreement.

In this substitution, the law, no doubt, in i
keeps sight always of natural justice. It there
tinction of persons, and also of the subjects o
tion. In regard to persons incapable of managi
fairs, it interposes a protecting tutory; it presu
bargains they have entered into are equitable, nc
become bound by their own consent. It makes
among the subjects of obligation. Perfectly g
tions (which are obligations to mere onerosity
shape sustain and enforce—the only instances to
ing that of the poor's laws, where a gratuitous
ty has been converted into a legal obligation (al
appear much more than doubtful, whether these
mount views of public utility have been in an
upon which this anomalous interposition has be

be justified); and the legal effect given to arbitrary deathbed destination to alter that order of succession, which appears natural and just, as being, in reality, or in strong analogy, a mere continuation of possession to those who had been joint possessors; an interposition which, on the contrary, has been invariably justified, in the preconception, and to the experience of mankind, as an indispensable stimulus to the full excitement of industry. * In all cases, however, where there is no ground of exception against the party on the score of inhability, and where there is an onerous cause of some sort or other, so that the obligation is not purely gratuitous,—the law assumes, that the onerous cause is a suitable equivalent,—that the bargain is just, and must be sustained according to its terms, without further investigation of particulars. Were not this maxim invariably fixed, the law must, of necessity, exercise a most irksome and tyrannical constraint of perpetual tutory over all its subjects, officiously intermeddling in the management of every one's private affairs, without regard to their choice or consent;—a constitution which would be equivalent to the issuing of a sweeping statute of lunacy against the whole inhabitants of the realm.

According to this invariable and necessary maxim of law, every contracted obligation is held binding, unless it is either purely gratuitous, or *contra bonos mores*, or contracted by parties labouring under legal disqualification; and the bargain to be sustained is *the real bargain of the parties*, what they understood and contracted for at the time,—to interfere with which, in the smallest degree, in altering its terms, by construction, into a meaning different from the original understanding of the contracting parties, would be a most officious and irksome interposition of the law or of the judge, subjecting the whole community to a contemptible state of pupilage, as destitute of common understanding to regulate their own affairs.

If we bring these universal and constant maxims of law, which I hold indubitable, to bear upon the *first* question, I presume there can be but one opinion held upon the subject,—*that the obligation can be enforced merely according to the sense of the parties at the time of entering into the contract.*

If a mode of husbandry has been invented during the currency of the lease, by the observance of the rules of which the tenant might leave the lands in a more immediately productive state, and of course more profitable to the landlord, however much the

* It may also be noticed, that the law will give no effect to any obligation *contra bonos mores*—neither to an obligation come under to commit a crime—nor to an obligation to remunerate a crime committed.

the adoption might be hurtful to himself, in his situation; it might be liberal and generous in the tenant to sacrifice his own interest to the promotion of that of the landholder,—he might gain just praise, and avoid those opprobrious epithets of *scourger*, &c. by which self-interest would endeavour to bring into disrepute such practices as are inimical to its views. But the question I agitate, is not to what line of conduct the tenant ought to be exhorted in order to obtain the praise of generosity, but to what he can be compelled by law as matter of strict obligation in justice. And unless, in this instance, the law shall step out of those precincts to which it hath properly limited its compulsitor in every other instance of bargain, it must restrict itself to the compulsion of nothing further than what was contracted for by the contracting parties. The want of liberality in the avaricious towards the poor, may be matter of just regret, as well as the want of it in tenants towards landholders. A humanity, perhaps mistaken, and views of utility however dubious, have led, in the former case, to the enactment of poor's laws as a remedy; removing liberality from its proper footing of option, by converting it into a legal obligation. To compel a tenant to a generosity above what he is bound to in his lease, would be an equal departure from all ordinary established maxims;—it would be the adoption of a mode of law construction equivalent to the enactment of a poor's law in favour of the landholder;—or equivalent to a declarator of *non compos*, by which he was put under tutory of the law, considered as incapable of binding himself by his own deeds, and entitled to more than that to which he had limited himself by contract.

In regard to the tenant, it is indeed obvious, that the law has, for a long period back, departed from those maxims, which I have here stated as established maxims in the interpretation of his bargain. In his case, the law, following out the natural maxims of justice, has had respect to his personal situation; and, considering him as not in a state to have made a proper bargain for himself by his own free consent, had looked upon him as the proper object of legal tutory. Legislative enactment, as well as juridical interpretation, therefore, equally concurred in endeavouring *to make his contract what it ought to be*, instead of *to support it as it was*. As, by the universal condition of his bargain, (either as expressed in writing, if there was any, or as interpretable by consuetude), he was ejectable at any time of his lease by a succeeding heir or purchaser, and was also at all times liable to the extent of his whole stock for the debts of his landlord; his security, in both respects, was established by the Scots acts of 1449 and 1469. By the act 1748, he was also freed from obligation

gation to mere feudal burdens, and from all *unspecified* services of *use and wont*, under the interpretation of which he was often oppressed; and his obligations were restricted to what should be *directly specified* in his lease, with the mere exception of adstriction to mills as was customary, and the obligation to pay one half of the schoolmaster's salary, and one half of the poor-rates where established. Under the benign influence of such liberal enactments, and of a long continued tone of liberal construction in our judges, as likewise of a growing spirit of liberality among the landed proprietors, the Scots tenantry have finally been established in a state of security more favourable to enterprizing exertion than has perhaps ever yet been enjoyed by the actual cultivators of the soil, in any age or nation recorded in the annals of history. I think, however, I can perceive a tendency to an alteration of those juridical maxims which have so long prevailed. I conceive (upon general principles) that the tenant will now be held more competent to make an equal bargain for himself, and will be less considered in the light of a proper object of legal tutory; and imagine that I have perceived (in fact) a confirmation of this conclusion, in the spirit of some later decisions of our courts, where the object seems to have been *to enforce the bargain as it was*, rather than *to pay regard to what it ought to have been.* And as the tenantry are coming more and more to be considered as sufficiently able to stand upon their own legs, it certainly behoves them to be the more considerate as to the terms of bargain to which they shall subject themselves in the conditions of their leases. But however much tenants may have formerly been considered, from their then depressed state, as proper objects of the interposition of legal tutory, no state of society has ever yet occurred, nor will occur, (excepting perhaps during the irremediable but short lived paroxysm of revolutionary delirium) in which the landed proprietor, either did lye, or was conceived to lye, under such a state of thraldom to the actual cultivators of the soil, as to stand in real need of the protection of legal tutory, to defend him against the iniquitous terms of bargain, which the disadvantages of his situation might constrain him to come under in his agreements with his tenantry. * Upon these grounds, then,

* I can indeed conceive no way in which the landed proprietor can easily be supposed to be placed in any sort of dependence upon his tenantry, excepting by the extension to them of the right of franchise, as was done in England, in the struggles of monarchy against aristocracy. But the landholder can easily redress himself, by reducing such imaginary freemen to the state of mere servile retainers, in withholding all security of leases, (so universal in Scotland) and keeping them in the abject state of mere tenants at will.

I revert to the original position, that the law (whatever it may have done, or may still do, or not do, in favour of the tenant, in respect to his more dependent situation) will not, and cannot, with the smallest propriety, interpose its favourable tutorial interpretation for behoof of the landholder; but will and must interpret the clauses of the lease, in regard to him, according to those salutary maxims it hath uniformly adopted in the interpretation of all bargains entered into by parties standing upon an equal footing, and that is, *according to the sense of the contracting parties at the time of the agreement.*

Were we to admit of an interpretation—far-fetched and violently strained indeed—the obligation *to observe the rules of good husbandry* might be wrested to signify, not that which was, at the time, considered to constitute good husbandry *by the contracting parties*, but as an obligation to follow such practice as should, at any time during the currency of the lease, be considered as good husbandry *by other people*; (and that, *as a subject of future discussion and litigation*,—whether as so considered by the superior enterprising few who take the lead,—or by the sluggish many, who often manifest a backwardness in following,—or by the Scottish Professor of Agriculture, if such an institution should then be in existence.) The import of such a contract would be, that the parties had bound themselves to—a something, but to what, neither knew: That the tenant had, meanwhile, bound himself to the certainty of a lawplea, but to nothing else certain: That he had bound himself to a liableness to have every step he should take interrupted, even during the currency of his lease, till the competent judges of good husbandry (whether majority, minority, or agricultural professor) should sanction his measures; thus renouncing all pretensions to a capacity of judging, and to free agency, and reducing himself to the state of a mere machine under external direction, in whom all power of reasoning is superseded: That he had bound himself in an obligation, under which, if the new discoveries of good husbandry (sanctioned unequivocally, as above, to be such) were of recent invention, he might, towards the close of his lease, be compelled to adopt that expense of preparation which every change of system necessarily implies, without a possibility of reaping any advantage from this expense; under which too he might, oftener than once during his lease, be compelled to this wasteful change of system, from the ambulatory nature of a subject in a state of continual progression; under which, also, at the expiry of his lease, he might be exposed to heavy damages; either because his own ideas of good husbandry happened to differ from those of the judge, or such arbiters as he appointed; or because his own adoption of similar ideas with those

those of the judge or arbiter, had come too late to enable him to change his system without manifest loss. Such a construction of the tenant's bargain would indeed evince him to be such a fool, as to be equivalent to a declarator of his lunacy; which, if the law sustains, it ought also to extend to him the protection of legal tutory; and I know no way in which this could be so appropriately extended, as by holding such an absurd clause (if such is to be its interpretation) perfectly null and void.

If this clause in a tack is then to be held as at all obligatory, it seems clear, that it can only be construed as inferring an obligation to farm, according to what was understood by the parties to constitute good husbandry at the time of their entering into contract.

I have indeed heard it seriously maintained, that in a litigation upon such a clause, it would be necessary that the judge should decide upon it, as inferring an obligation to farm according to presently existing notions of good husbandry, from the ease, as was alleged, with which we can come to the knowledge of these, and the difficulty of ascertaining what was approved of as such at the period of the contract. If a judge, however, shall think it proper at all to interfere in giving decision upon a subject, where the grounds of judgment must be so very vague and inexplicit, I cannot see that he is at all entitled to reverse the constant and established maxims of legal interpretation as to bargains, merely because, through such reversal, he produces greater facility in the proof. Neither (if such an argument did indeed deserve consideration) does it appear clear that there would be more difficulty in the one case than in the other; the inconsiderable period of the duration of a tack, though too distant for the distinct recollection of all the circumstances of a fact, being probably even more favourable for the well digested recollection of a general view upon which to found an opinion. If it shall be alleged difficult to fix upon the exact features of a subject which has been continually varying through progression in improvement, the same difficulty must equally apply to modern as to antient practice; unless, indeed, we shall allow that we have become absolutely stationary, through failure of enterprize; or shall vainly suppose that we have already attained to the very *acmé* of perfection, beyond which there is no further progress to be made.

But though, Sir, I thus have advocated the interpretation of the clause, *as applicable merely to what was understood to be good husbandry by the contracting parties*, as being the only interpretation consistent with those sound legal maxims followed out in all other cases of bargain; I am nevertheless abundantly sensible, that nearly equal absurdities would follow upon this interpreta-

of the lease, should mark down a complete system of good
tice for the farm, embracing every supposeable particular f
whole duration of its currency. He would equally, unde
interpretation, be reduced to the state of a mere machi
thought would be equally precluded, and all enterprize or e
ment; farming would necessarily become stationary; and
gious landlord might impose penalties even upon ascertain
provement, as a contravention of bargain. Judges, too,
ing either system of interpretation, might be inextricably pu
as to the interpretation of *good*. Does it mean the *very b*
the next best, or *the next again?* Is all *good*, that is not *po*
bad? and where are the precise boundaries to be fixed
good ceases, and bad commences?

In my answer, then, to the *second* question proposed f
cussion at the outset, (in which I doubt not your readers
already anticipated me), I am decidedly of opinion, that, a
ing to the soundest principles of law, as followed up, eit
legislative enactment or judicial interpretation, no regard
should be paid to such vague and indefinite clauses, and
ought not to be considered as a proper subject of judicial i
gation or of legal enforcement.

In the spirit of these sound and wholesome principles, t
gislature, in 1748, enacted, that no vague clauses of *use and u*
cases, should be at all obligatory upon tenants; that they sho
bound to [illegible] but what was *definitely and explicitly*

o a proof of the vague circumstances of use and wont; lay- it down as a general maxim, that no bargain could be legally orced where there was no precise specification of terms.

Public utility, which, no doubt, in many cases of urgency, is amount to every private right, has been considered as deeply erested in the practices of the tenantry; and has indeed some- ies been held as sufficient ground for interfering with the te- nt's management, on pretence that he may diminish production, n in open leases, where there is not even the vague restrictive use *obliging him to the rules of good husbandry*;—and unquestion- y this would furnish a more plausible ground of interference, n a mere regard to the immediate interest of the landlord: l yet, were this the real ground of interference, why should it be thought equally competent for the public to interfere with much more deteriorating acts of the proprietor, by means of islative enactments, and a public overseer? I believe, how- r, it would be deemed ridiculous in the extreme, that any ws of immediate public utility should call upon the interfer- e of the legislature or the judge to prevent the spendthrift prietor from essentially deteriorating his pastures by disman- g them of their shelter of woods—or from procuring the com- nd of money, by letting out his grass parks for scourge crop- —or even to correct the absurd conditions of his lease, which y condemn the farm to a comparative sterility: superior views, nore extensive utility must, in common sense, here prevail, in uring its proper stimulus to industry, by ascertaining to the prietor the full command of the subject of his property, ei- r as to its use or abuse.

Now, in my humble opinion, the same extended views of uti- should cause it to be deemed equally inconsistent with either slative or judicial dignity, to interpose their authority in ha- ing the tenantry during their possession, or at their outgoing, n the vague, unspecific clause, *obliging them to the practice of husbandry*. Let the outgoing tenant do his worst; and all the nage he can effect is but trifling and temporary, and what may speedily be repaired, and utterly unsuitable to the dignity of er legislative or judicial interference. As a mere usufruc- y of the annual productions of the soil, he knows that he neither rob the property of its minerals, nor deprive it of the ter of its woods, nor convert the soil into bricks, nor carry way elsewhere to be converted into compost middens; neither in his power, by any mode of farming, to alter in any way, ntially, the natural quality of the soil, so as to transform a ile clay into a barren sand, or a barren sand into a fertile clay. tenant's own interest abundantly secures the best manage-

ment during the currency of the lease, to the best of his ability at least; or, if he is deficient for the undertaking, either in skill or capital, he is sure to be beat out of the possession by a competitor superior in both respects, at the end of his lease; nay, this may take place even during its currency, from the capacity of one of the latter description to afford him more than he can make, if he is not absurdly deprived of the privilege of subsetting. It is only for perhaps the last three or four years of the lease, that the tenant's interest can possibly diverge from that of the landlord; and, if the landlord should suffer a little in his interest for these years, he will soon profit by the correction, in taking care to insert *specific* restrictive clauses as to these years, which, as *such*, may with propriety be supported by law, without any reversal of those sound judicial maxims, adopted in all other cases. * In short, the matter may be safely left to regulate itself. Better farming can afford higher rents; and higher rents offered, compels to better farming, without which, the tenant who bigottedly adheres to the less productive system, must be beat out in the competition; and proprietors may be safely left to take care of their own rights by *specific regulations*, without any necessity of the law or the judge travelling out of their proper precincts, in order to secure a trifling immediate utility which will be secured, at any rate, of course.

I am well aware, Sir, that there is a prevailing clamour against the practices of outgoing tenants; and that landed proprietors are apt to look upon them with something of that aversion and horror which the rabble entertain against meal-dealers in the time of dearth. These prejudices of landholders are, indeed, easily accounted for. Every tenant about to bid for a farm, like the cheapener of every commodity, endeavours to beat down the price by every feasible allegation tending to diminish its value. Now, as he well knows that the credulity of no landlord could swallow the monstrous absurdity *of the preceding tenant having carried away the soil upon his back*, his next resource is to attempt establishing the greatest extent of its deterioration through his malpractices: Hence we hear of soils reduced to a state of total exhaustion and inanition,

* Restrictions, even as to the last years, must necessarily imply a corresponding *system* of management on the part of the tenant. They therefore essentially bar improvement, were they to be rigorously insisted on. Might not the tenant, in his lease, be allowed to substitute any other management, under certification, if challenged, of paying damage, unless he could instruct it to be of permanent superiority; the landlord also being under certification of paying all expenses, if the tenant does so instruct, upon being challenged?

inanition, through the purgation of lime, or continued succession of white crops;—of its having been left a perfect *caput mortuum*; the whole substance of it having been sent to market in the shape of wheat, &c. &c. And yet, after all this clamour, I confess I remain a most incredulous sceptic. In the course of all my experience and information, I never yet could have it distinctly ascertained, that any land, by nature fertile, had ever been so depraved by mismanagement, but that, in a very short time, it has been rendered abundantly productive, under the judicious treatment of a skilful farmer.

I am therefore, upon the whole, decidedly convinced, that the unspecifying clause of *obligation to good husbandry*, ought, in all sound construction of law, to be held null and void, as a mere technical pleonasm of law language; and, that any trifling subsequent diminution of production, to be apprehended from the practice of outgoing tenants, is too trivial to justify the interference of either legislative enactment, or juridical construction, in a manner diametrically the reverse of that which general and extensive views of utility have demanded in all other cases of contract;—in a manner, too, cramping all energy in the mind of the tenant,—reducing him to that despicable state of perpetual pupilage, from which he would be exempted in any other profession to which he might betake himself; and which, therefore, must have the strongest tendency to banish from the profession every man who has the spirit of a man, or is possessed of liberal views; and that, too, for the mere purpose of securing a very trifling utility, which, through views of self-interest in those immediately concerned, would soon be secured of course.

In regard to asserted facts, I am of opinion, that he who asserts them is bound to announce himself, that the evidence may be weighed, and that the public may not be deceived. In regard to offered opinions, I am as clearly of opinion, that they ought neither to be exposed to that undue invalidation, nor artificially fortified with that undue authority, which arises from personal association, but be left to rest purely upon the arguments adduced in their support. I therefore subscribe myself, yours, &c.

NOBODY.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Transformation of Lochs into Valleys on the Banks of the Nith.

SIR,——I BEG the favour of a corner in your valuable Magazine for the following communication. Though not strictly agricultural, it is allied—may be interesting to a considerable number of your readers—and will not occupy much room.

Upon a perusal of Professor Jamieson's Mineralogical Description of Dumfries-shire, I find he is of opinion, that several val-

leys, of considerable extent, along the Nith, had formerly been lakes, similar to many that yet remain elsewhere.

Tradition reports, that the holm or lowland at Dalgoner, partly alluvial, on the banks of the Cairn, 10 miles N.W. of Dumfries, was formerly a lake, and the present water-course formed by labour.

The late Mr Copland of Collieston informed me, that Hector Boece, said to be born 1470, but whose works I have not an opportunity of consulting, confirms this; saying that the river Cairn, which now runs south from this point, formerly run east, and emptied itself into the Nith, near to where the bridge at Auldgirth now stands; and certainly the gulley through the rock below Dalgoner bridge, several hundred yards long, and in parts more than fifty feet deep, in which the water now runs, has more the appearance of having been formed by human labour, than any thing else of the kind I ever saw.

If so, the nature of the ground had much favoured the operation; but the labour, notwithstanding, must have been immense; and, though very practicable, and the probable advantage seems inadequate to recompense that labour, yet, in confirmation of this, it may be observed, that, a few miles below this place, the river Cairn changes its name to Cloudin, and that a smaller water, which rises in the parish of Irongray, and falls into the Cairn at that remarkable cataract, Routin Bridge, still bears the name of the Old Water of Cloudin. *

If tradition, &c. report right, this course must have been formed by the water, by art, or both. Be this as it may, it must have been many hundred years ago; yet no part of it has much the appearance of being water-worn, as we see in many places the hardest whinstone is. The rock, through the whole course, is mostly of that loose kind called rotten stone, and, to all appearance, much in the state it would be left by the pick and hammer, if formed fifty years ago.

The course through the rocks may be a hundred feet wide or upwards; in most places fully the size of the channel of the river, either above or below, and the declivity very moderate: yet the water runs with such force and turbulence in time of a flood, and the banks are so romantic, as to make the whole one of the greatest curiosities in this country.

A circumstance in support of all this, is, that about eighty years ago, a flood swept off the whole of the corn-mill at the head of this cataract, and carried one of the millstones to the bottom of the gulley, four hundred and sixty paces distant, and deposited it in a deep pool, there called Hell's Cauldron. J. G.

BRANCH

* See, for this name, Maps of Dumfries-shire and Galloway, and Sir John Sinclair's Statistical History, vol. IV. p. 526. & 532.

BRANCH II.

REVIEW OF AGRICULTURAL PUBLICATIONS.

Review of the Reports to the Board of Agriculture from the Northern Department of England, comprising Northumberland, Durham, Cumberland, Westmoreland, Lancashire, Yorkshire, and the mountainous Parts of Derbyshire. By Mr Marshall. London, Longman & Co. pp. 536.

IR MARSHALL, who has written more diffusively concerning iculture than any other man in Britain, Mr Arthur Young exted, having exhausted, it would seem, his own stock of knowe of that important art, kindly undertakes, at this time, to as furbisher to the Board of Agriculture, and to retail, at se- d hand, what was already printed and published by other peo- , rather than remain idle or unemployed. While we give all dit to Mr Marshall for entering upon this humble office, we not quite sure whether some motives, not of the most credit- kind, might not influence him to bring forward the present olication. Perhaps he either wished for an opportunity to abuse President of the Board of Agriculture, and other gentlemen conted with that establishment, or to open a new branch of the k-making trade, confessedly of great importance to one like Mr rshall, who, for many years, has been deeply engaged in that of business. We shall not stop, however, to investigate his ives; but proceed, without loss of time, *to review the rever.*

Most of our readers, we presume, have heard of such a man Mr Marshall; but few of them perhaps know much about his fessional character and abilites. We therefore acquaint them, ; in 1774, he farmed about 300 acres of land near Croydon in ry, *from which*, according to his own account, *he was soon fortately released*, though he is not so kind as to say in what man- . His first publication, viz. 'Minutes on Agriculture,' &c. ed from the press in 1778; and those who wish to form a ect opinion of his knowledge at that time, may consult these utes. As a sample of his practice, we select the following ute, and leave the most slovenly of our readers to determine n its merits. 'Wednesday 30. Brought down from Adscomb, t sacks of oats in chaff, for the cart-horses. Would it not be culous to winnow them? Surely, to dress oats intended for ate use, is muddling through a dirty suffocating job, without other advantage than having the pleasure of remixing the oats chaff in the stable.'

After

long endurance, being generally dissolved in consequence
cumstances unnecessary to be mentioned.

So far we have brought up the history of Mr Marsha
justice calls upon us to say, that in 1793, when the B
Agriculture was established, he was fast approaching to t
mit of his profession. At that time, the book-trade of Agr
was almost entirely possessed by him and Mr Young, the
no other opponent in the field than the late Dr James An
who was then attracting the public notice. But Mr Marsh
the most plausible writer of the three,—therefore his books
greatest sale. Very probably he would have made an esta
books, had not Sir John Sinclair most wickedly brought a
irregular writers upon the stage, and deprived Mr Marshal
immense pecuniary advantages which he was almost cer
reaping. In fact, Mr Marshall seems to consider these ge
as interlopers in the trade, and argues the business as if he
ed letters patent, constituting him surveyor-general of Briti
bandry.

The present publication contains, in the first place, a p
nary advertisement, couched in language uncommonly tem
wherein the author, with singular modesty, bestows a go
of praise upon himself, and exhibits his claims on the pu
large for the views which he had unfolded of the territori
cerns of the country. In the second place, we are favour
an introduction to the work, which details the origin an

we have to notice, that when the plan of Sir John Sinclair's board was under consideration, Mr Marshall seems to have been consulted by the worthy Baronet, and not to have been adverse to render every assistance within his power. But, strange to tell, the moment that a secretary was appointed, he appears to have regarded the Board with a jealous eye; characterizing it as a job gone into by Mr Pitt, with a view to quiet the ambitious cravings of the President, and to reward a supposed change in the political sentiments of the secretary. On more mature consideration, Mr Marshall, however, prudently resolved to restrain his indignation, thinking the plan of the Board might be turned to his own private advantage. Instead of viewing the surveyors appointed by the new Board as rivals, he began to consider them as a band of assistants, which fortune had thrown in his way; therefore, wisely determined to join them, and, if practicable, to reap the fruits of their labours. He assures us, however, with his usual candour, that he did not mean to reap these fruits for himself, but for his country!—which, no doubt, was a very patriotic resolution.

Under these impressions, Mr Marshall seems to have supported the Board with great zeal for several months. He drew up a report of the husbandry of the central Highlands; was elected an honorary member of the Board; attended the private consultations of the President; and, to all appearance, was fast advancing in his favour. These pleasant circumstances were unluckily soon dissipated; for, the President having resolved to reprint the surveys upon an uniform plan, Mr Marshall was pleased to consider this resolution as a declaration of war against him: and a kind of armed neutrality seems to have taken place for several years, which unhappily terminated in an open rupture.

During the year 1795, Mr Marshall attended the Board pretty constantly, and was in habits of attending occasionally till 1797, particularly when the general enclosure bill was agitated; but as the President persisted in his book-making plan, and of course lessened the demand for the books published by Mr Marshall, his indignation seems, about the last mentioned period, to have been strongly roused. But when the President proposed his plan for a rural institute or seminary of rural economy, his wrath was excited to the greatest pitch. Since that time, we believe, no correspondence has taken place betwixt the parties.

Mr Marshall's account of these matters is highly interesting, because it displays the temper of the man, and the strong partialities and prejudices which govern his mind, and influence his actions. We shall therefore select a few paragraphs from the introduction to the volume under consideration, and, without offering remarks, shall leave our readers to determine for themselves.

'In

'In December 1790 (a few months after the publication of that Proposal) the first President of the Board of Agriculture did me the honour of making himself known to me. He was then eagerly employed in collecting materials for a statistical account of Scotland, and in endeavouring to establish a society there, for the improvement of British wool. He was of course too much engaged, at that time, in Scotland, to make any attempt at the Presidency of a Board of Agriculture, in England; anxiously as he might then eye it, as an honour in reserve.

'It was not until the spring of 1793, that the (afterward) first President apprized me of his intention to bring the proposed Board before Parliament. He showed me his plan, and, during my short stay in London, repeatedly consulted me on the subject.

'At the time of my leaving town, there did not appear the smallest probability of the measure being adopted: even its promoter assured me that he had no hope of its being then carried into effect. Nevertheless, I had barely reached my temporary residence in the central Highlands, before the public prints announced the appointment of a Board of Agriculture, together with the names of the President and Secretary!

'How was this mystery to be explained? To me, at five hundred miles distance from the scene of the mysterious transaction, it was impossible even to conjecture the cause of so sudden a change in the sentiments of Ministers, on so *plain* a subject. Upon the spot, however, as I afterwards found, there were only two opinions respecting it, and these two led to the same point; namely, that it turned on what, in the familiar language of politicians, is termed a *job*; and the only doubt that remained appeared to be, whether the measure (weighty as it might be) was adopted to avoid the importunities, and quiet the still more ambitious cravings of the President, or to embrace a *fair* opportunity of rewarding a recent change of political sentiments in the Secretary.

'Thus fled my hope of credit (which I really expected) and all chance of profit (which I had not entertained) from my proposed Board of Agriculture. But as it did not appear, in any direct way, to interfere with my other plans, but might in one way or other assist in promoting them, its appointment gave me not much concern; —until I found, by a note from the President in September following, that he had adopted my plan of provincial surveys; and, with a firmness of nerve which few men are endowed with, enclosed a list of surveyors,—myself among the rest! urging me to take a share in his attempt to supersede a work, in the prosecution of which, the most valuable part of my life had been expended!!

'My indignation having abated, I returned the following answer: —" Mr Marshall's compliments, &c. &c. It gave him great satisfaction to hear of the establishment of a Board of Agriculture; an institution which Mr M. has long been anxious for; as it will give a degree of sanction to rural pursuits, which hitherto they have not had;

had; and may prove useful to the general work which he has now been so long and laboriously executing. It will of course give him great pleasure to aid the laudable exertions of the Board, in any way that will not clash with his own undertaking. But, to render this incomplete, by tearing from it any part of his General Survey of the Rural Affairs of these Kingdoms, would he thinks be altogether improper. If, as he intimated in London, his general knowledge of the practices of the island (Wales excepted) can be rendered beneficial in revising the collections of the raw observers whom the Board must necessarily employ, he shall be happy in lending his assistance. Taymouth, 11. Sept. 1793."

'On more maturely considering this evidently insidious attempt, it occurred to me, that the proposed plan of the Board might become subservient to my own design, by affording me valuable assistance in carrying it into effect. Hence, on further importunity (and a highflying lure thrown out!) I complied with the request to furnish an account of the mountain district in which I then was residing. Several of the proposed surveyors were respectable; and I now began to consider them, not as *rivals*, nor even as *fellow-labourers*, but as a numerous band of *assistants*, which unforeseen circumstances had thus fortunately thrown in my way, to aid me in the more perfect cultivation of my own field! and I am now about to reap the fruits of their labour,—not for myself, but for my country.

'Before I quitted the CENTRAL HIGHLANDS, I made excursions into the more recluse and sequestered parts of them (having previously examined the more fruitful and habitable districts, in going over the widely extended estates of the EARL of BREADALBANE, in that strongly featured and interesting part of the island), in order to be the better enabled to draw up the promised REPORT, which, in February 1794, I had the honour of *presenting* to the Board, of which I was soon afterward chosen HONORARY MEMBER; and, during a short stay in London, attended its meetings, as well as the more private consultations of the President.

'In August following, I was first apprized, by a letter from the President himself, that, during my absence from town, he had declared war against another and more important part of my avowed design. It was not enough to try to overrun, with his *levy en masse*, my PROVINCIAL REGISTERS; but he must attempt, with another *posse comitatus*, to overthrow my GENERAL WORK, which, for twenty years preceding, I had not only been progressively labouring to accomplish, but which I had been undisguisedly, and *unsuspectingly* promulgating; so that it was impossible for the President of the Board of *Agriculture* to be ignorant of my intentions.

'Nevertheless, in that happy unembarrassed manner which exclusively belongs to the first President of the Board of Agriculture, he sent me his chaotic syllabus, requiring to know how many of its chapters I could conveniently undertake!

'I remonstrated with him on the folly of attempting any thing

in the shape of a general work, while the Board remained destitute of materials, *of its own*, for such an undertaking; many, or most, of the Reports being *extremely deficient*; and, to compile from books, would ill become the Board.

'But no matter. The order was issued:—"Make books—good ones if you can: if not, make books." And, in truth, this order was operated upon, until the rooms of the Board had more the appearance of booksellers warehouses, than the offices of a public Board; which might then have been well entitled, the Board of Bookmaking, rather than of Agriculture.

'During the whole of 1795, for it was little more than one long session of the Board, I was pretty constant in my attendance, not only at the public, but in the more select meetings, offering my advice, and answering inquiries, without reserve; and, I must add, receiving great civility and politeness from the President—for reasons, however, which were too obvious not to be perceived. But I was willing, while I saw any hope of the Board's becoming *permanently useful*, to give it every assistance in my power.

'At length, however, seeing, in the wildness and instability of the plans of the President, and the undisguised opposition that was constantly given to the proceedings of the Board—whether wrong or right—by the very power which gave it birth!—that there was no hope left of its being under such circumstances *advantageous* to the *public*, my attention to it became relaxed, and reverted to its wonted channel, from which it had been unfortunately led astray.

'Nevertheless, I still continued to attend, occasionally, the meetings of the Board:—particularly while the GENERAL INCLOSURE BILL was first agitated, in 1797; this appearing to be by far the most laudable measure which the Board of Agriculture had adopted.

'Still, the President persevered in his bookmaking plan; and, though I had long withdrawn my assistance, sometimes sent me crude productions to be *criticized*:—thus still wiling me on, to assist him in the destruction of my own design; which he now began to *acknowledge* he had adopted; and proposed a sort of compromise,—offering, if I would fix any time for bringing out *my* general work, he would bring *his* out, before or after that time!

'This I smiled at; seeing, in the sort of materials he was collecting, no probability of his *rivalling* me in a general work. Yet the inundation that he was causing, by the quantity of books *about* Agriculture which he was throwing into the market, operated of course in lessening the diffusion and sale of my own works—hard as I had laboured to produce them; and I now had to contend with a hired corps (paid by that public whom I had long been gratuitously working for) *single-handed*.

'For all this, however, I could have granted him forgiveness, had he not afterward interfered with what I have more at heart, even than my general work; I mean a RURAL INSTITUTE, or SEMINARY of RURAL ECONOMY. But the base attempt which he unsuccessfully made

made to rob me of this too! is a crime which it would be a crime in me to forgive.' Introd. p. xxii.—xxvii.

The second section of the Introduction is concerning *the plan and execution of the reports.* The plan, generally speaking, was to survey each county by itself, which Mr Marshall is pleased to consider as '*demonstrably wrong*,' chiefly because it differs from the one which he had previously adopted for his provincial registers. Bad as he considers the plan to be, he slips not the opportunity of complimenting himself, by remarking, that

—'the plan of the original Reports of the Board—if plan they can be said to have—most of them being, literally speaking, "without form and void,"—was what may be conceived from some of the heads, of the provincial surveys which I had then published, being turned in a wheel, and arranged in the order in which they happened to be drawn out. They were evidently mine; but so *deranged* and disfigured, as not to be easily recognised.' Introd. p. xxx.

He next produces the plan adopted when the reports were reprinted, as 'an example of the incapacity or unfitness of the President to take a lead in the rural concerns of a country;' and closes the section with some severe animadversions on the jarring arrangement of the Prospectus. The concluding paragraph deserves to be recorded, chiefly because it shows, that Mr Marshall fully believes that, independent of himself, there is not a person in the island capable of making an arrangement calculated to disclose a plain state of rural matters. It is a little curious, too, that he should cite the authority of his own writings in support of his present statement. He might as well have said, this plan is wrong, because it is not in unison with the one which I devised for attaining the like object.

'From this view of the foregoing chaos of chapters and sections it is evident that, to make use of it, in reviewing the Reports, of which it is given out as the plan, would be altogether vain, or impossible, And seeing, further, "the confusion worse confounded" by the Reporters, who have not unfrequently, and no doubt inadvertently, spoken of different subjects in the same section; and, sometimes properly enough, brought forward topics that are not to be found in the plan delivered to them;—I had no alternative, but that of considering the whole as a series of *miscellaneous remarks*, without plan or order; and to mark, in the margins of the several Reports, the proper subject to which each remark belongs; as I have ever done in digesting my own *miscellaneous minutes.* See MINUTES in the SOUTHERN COUNTIES, NORFOLK, MIDLAND COUNTIES, &c.' Introd. p. xxxvii. xxxviii.

The third section treats of the qualifications of a reporter. These are, a practical knowledge of the several branches of the rural profession, particularly of the management of woodland,

as

pable of describing it. We suppose he had been looking
Treatise on Landed Property, and inadvertently abstrac
qualification, without thinking about its tendency. But
not insist upon these things; because, in an after quali
Mr Marshall effectually disqualifies every one of the re
unless they happened to be residenters in the districts
upon. With him, two years, or, at the very least, one
residence, is an indispensable qualification, before any m
'*be allowed to make a public report, or publish his register.*'
not sure whether Mr Marshall has not, in this way, disq
himself, as we do not understand that he resided either
two years in the central Highlands.

Though clear that practical knowledge, in the profes
rural art, is absolutely necessary, before any man can
suitable report upon the state of husbandry, we are
means satisfied, that any great length of time is require
by a stranger, for comprehending and ascertaining the
practices of any district, if the person employed possesse
cient discernment to appreciate the merits of the practice
tigated and reported. In surveying a county or district,
nutiæ of husbandry certainly do not constitute a prominent
of inquiry. Such subjects rather belong to a didactic wo
to a descriptive report, which simply professes to treat of
sent state of husbandry, the obstacles which impede its i
ment, and the best means to be used for removing these ob
In this point of view, the system of connexion betwixt pr

Such, when treating of the husbandry of a district where leases are seldom granted, and restrictive covenants are numerous, will devote their chief attention to the evils attendant upon the want of the one, and the injury which follows from the effects of the other. To ascertain these matters, does not require much time. The facts may be learned by examining the district; and, when ascertained, may be discussed and reasoned upon, equally well an hundred miles from the district, as within its bounds. Where leases are not granted, restrictions, of course, become necessary. The one is cause, the other is effect. By the want of the one, improvements are impeded, or, rather, they are utterly neglected. By the exercise of the other, the occupant is kept in an uniform course, and subjected to the will of a third party on every occasion. But the matter need not be urged further, because the slightest reference to the husbandry of the island will at once proclaim the utility of leases, and the benefit of discretionary management. Perhaps ploughing, carting, harrowing, and the like ordinary operations, may go on equally well in districts already improved, whether leases are granted or not; but without them, no permanent or substantial improvement will be made, unless enforced by compulsory measures. Perhaps better bargains may be enjoyed by the occupiers without leases, than with them; because, where they are not granted, capital stock is sure to flow into other channels than agriculture, the profession being thereby dishonoured, and rendered less respectable. But a surveyor of liberal views will not devote his attention to the interest of individuals, whether proprietors or occupiers. He will consider the public good as the chief object of his inquiries; and, viewing the territory of the country as its original fund or capital stock, will regard its improvement or increased production as deserving his sole attention; no matter by whom the fruits of that improvement are to be reaped, or whether the increased produce arising from that improvement is to be enjoyed by proprietors or occupiers.

Again, if the laws or polity of the country are hostile to improvement, the evils which flow from them deserve to be elucidated in a public report. If vague, arbitrary and undefined burthens are laid upon occupiers, whereby the means of cultivating the ground are impaired, and enjoyments lessened, they ought to be clearly described, and amendments suggested, so as their abrogation may be accomplished. Many parts of the English legal system are directly hostile to territorial improvement;—witness those which regard the collection of tythe, and the possession of waste and common-field land. Others, again, such as relate to poor-rates and public burthens, may rather be consider-

ed as indirectly hostile to improvement. On all these matters, facts are only wanted, which, being embodied, may be reasoned upon afterwards. Much time is not called for, to collect these facts. The collection, even in the largest district, may be made in a month, equally well as in a longer period.

But we will go further, and maintain, in opposition to Mr Marshall, that the actual practice of any county, so far as repects useful purposes, may be estimated in much shorter time than he seems aware of. The mode of cropping is usually considered as the first feature of practice; and, with a little pains, this may be soon ascertained in the most satisfactory manner. No doubt, should the rotation of every individual be wanted, years must elapse before that information could be gained; while, after all, the public would not be one whit bettered by such diffuse information. But a public Board can never need information of this nature. It is the leading, or chief systems of management, that are called for, without descending minutely to the management of individuals.

If summer fallow is commonly practised, that fact may be soon ascertained. If turnips are cultivated, the reporter, by exploring the district, will easily learn whether the broadcast or drill method is adopted. He will do the same with regard to every other branch of practice; and, in reporting upon them, will extend or limit his observations, according to the state or condition of the district he was appointed to examine.

But Mr Marshall, when sitting in judgment upon the reports made to the Board of Agriculture, first makes a law, and, according to that law, condemns or acquits the reporters. Because the Board presented a different plan to the surveyors than the one followed by Mr Marshall, he is by no means entitled to condemn the surveyors, for no better reason than that they had not imitated his mode of surveying. Mr Marshall's system may be a very good one, for any thing we know; but, were we to bring it before our court and condemn it as inexpedient and unsuitable, merely because it differed from the plan adopted by the Board of Agriculture, he certainly would be warranted to advocate the sentence before another court. Precisely, however, in this way, has he acted to the Board of Agriculture, and the county surveyors. We here speak generally of these matters, and as they are treated of in the third section of his introduction. His objections to individual surveyors shall be noticed afterwards.

Mr Marshall's plan of reviewing the reports is next explained. He first divides the kingdom into imaginary departments, describing what he calls the characteristic features of each, though plainly with little accuracy or precision. As, for instance, what connexion

nexion have the barren heaths of Northumberland, Cumberland, and Westmoreland, to do with the rich pasture vales of Yorkshire? or, what affinity does the Yorkshire system of two crops and a fallow, bear to the alternate husbandry of Northumberland? In fact, there is not a single objection against surveying by counties, but what may be urged with equal, if not with greater force, against provincial surveys; the soil, climate and practices of Britain, being so variable and different, that no system whatever, which has uniformity for its basis, can be correctly executed. We always objected to the Board's plan on this very ground, and have constantly maintained, that if each surveyor had been left to form a plan for himself, the state of husbandry would have been more satisfactorily explained.

We now come to the Review Branch of the book. This branch includes the surveys of what Mr Marshall calls the Northern department of England, namely, of the counties of Northumberland, Durham, Cumberland, Westmoreland, Lancaster and York.

Here it may be proper to describe the mode of reviewing adopted by Mr Marshall, which is certainly novel and extraordinary. By the Board, each report was divided into seventeen chapters and a conclusion; but Mr Marshall, thinking that arrangement defective, because it differed from the one followed in his provincial registers, takes the whole fabric to pieces, and arranges the materials thought by him worthy of notice, under different heads, such as national economy, political economy, and rural economy; and those, again, are frittered down into various subdivisions. An arrangement of this kind is of an arbitrary nature, and dependent entirely upon the whim or caprice of the person who forms it. The one followed, is agreeable to Mr Marshall; and that, on the present occasion, is perfectly sufficient.

Having made this new arrangement, Mr Marshall proceeds to classify his materials in the several heads and divisions under which he is pleased to place them, making observations, as he goes along, neither numerous nor of much importance. The report of Northumberland is first examined. Here, at first view, Mr Marshall appears in high good humour, gladly embracing the surveyors, and welcoming them to the field in which he had so long laboured. This good humour, however, soon forsakes him; and he gets fretted with the surveyors, because they give some directions for hanging gates, according to a method which he says was discovered by him in 1785. He next accuses them of inexperience with regard to the working of oxen; though it is understood that one of these surveyors formerly employed more oxen than any other man in the kingdom. It may be remarked,

that Mr Marshall seems at this day to be enthusiastically fond of working oxen, though, by his own accounts, the employing of these animals in the execution of farm-work, is but a vexatious and disagreeable business. Upon turning up the quarto edition of his Minutes of Agriculture, published by Dodsley in 1778, we found the following paragraph.

'August 9. The men and boys are unanimous in the dislike of oxen. The buying of them was unluckily premature. Their keep has been thus far treble the value of their labour; and they must now lye a dead weight till after harvest. They have been the cause of more impertinence, vexation and bickering, than all the other appendages of the farm.'

After explaining the practice of cultivating turnips in Northumberland, Mr Marshall adds, 'But it falls far short of what might have been expected to have risen in the experience of twenty-four years constant practice among men of intellect and observation.' Now, what are we to understand from this, but that Mr Marshall knows very little of turnip husbandry? This is evident from his recommending the spreading of dung, and sowing the seed upon the surface before ridges or drills are formed, in preference to the correct system adopted in Northumberland.

The Durham report, being executed by a landsurveyor, is favourably treated, though the body of the work consists of no more than *thirty-four pages*. In fact, Mr Grainger the surveyor passes the ordeal without being singed in the slightest manner. The like remark is applicable to the surveyors of Cumberland, Mr Marshall having been in good humour when judgment was pronounced.

Speaking of the Westmoreland report, Mr Marshall sagaciously concludes that the author is a Scotchman; which, no doubt, is a striking proof of intuitive discernment. In this review, we discover an instance of flippancy and impertinence which deserves the severest castigation. The surveyor having, in his conclusion, thought fit to pay some compliments to the President, Mr Marshall, without the slightest foundation, but with a want of urbanity and good manners, (qualities not very conspicuous in his character), is pleased indirectly to substitute the reportee for the reporter; in other words, to suppose that the President had written the paragraph alluded to. From our personal knowledge of the reporter, we venture to affirm, that he would indignantly have disclaimed such an interpolation, had the reportee acted in so mean a way. We consider the passage before us as the silliest and most contemptible of the whole book; in short, as one conceived by malice and discontent, and fostered and brought forward by pragmatical inanity.

The

The Lancashire report comes next under examination. Mr Holt, the original surveyor, is described as speaking of pigs like a practical man, as an adept in potato husbandry, and as knowing something of gooseberries and tulips!! But the extent of his knowledge is of no importance, because the reprinted report is attributed (truly or falsely, we cannot say) either to the Board, or to its President. Under these circumstances, we expected that the report would meet with a severe drubbing; but, passing strange! scarcely a single observation is hazarded upon it. Were we to search for a reason why this leniency was exercised, perhaps it might be found in the moderate opinions held by the reporter on leases and covenants, which certainly are not very hostile to the doctrines of Mr Marshall and other executive agents.

But Mr Marshall, like a skilful general, reserves his principal fire till the West York survey comes before him, when he discharges the whole train of his argumentative artillery against that unpopular work. The history of this survey is curious and interesting. It was read with avidity both in its quarto and octavo shape, though combated at the outset by a series of marginal remarkers, who accused the authors of every crime except a want of knowledge in husbandry. After being reprinted, it had the singular good fortune of being attacked in the House of Lords by the late Lord Rosslyn; and, though deserted by the *then* Board of Agriculture, who absolutely published a sheet disclaiming all connexion with the author, or responsibility for his work, it still maintained its ground in the public opinion. Mr Marshall now attempts to give it the *coup de grace*; but, perhaps without success. Be these things as they may, though it is out of our way to examine his observations in a particular manner, we cannnot pass over one or two attacks upon principles regarded by us as of the first importance to the interest of agriculture.

In the *first* place, Mr Marshall states, that he finds nothing in the arguments of the reporter, in favour of leases, that can claim particular attention; and gravely adds, 'that the beneficial operation of leases has been so frequently shown, and is, I flatter myself, so well known in England, as not to require any extraordinary strength of argument to support it.' From this passage, superficial readers would be apt to infer, that leases were quite common in England; that the great majority of the people were perfectly satisfied with regard to the utility of that mode of tenure; and that the reporters were only attacking a man of straw, and wasting time which might be more usefully employed. This, assuredly, is the view which will be taken by any person who peruses the strictures of Mr Marshall, and is not acquainted with the system of connexion which generally prevails

cuted.

It deserves notice, that though Mr Marshall coldly leases, yet he says very little in their favour. Indeed t hold system of the Yorkshire surveyors is so very diffe the one supported by Mr Marshall, that it was impo expect the support of that agricultural sage when th of their system came before him. Mr Marshall ma recommended what he calls triennial leases; in othe leases which were to endure for six years at least from mencement, with a condition that, if neither party ga to quit before the end of three years, then the term prolonged to nine years; and so on from three years years, till notice was duly given. We frankly acknowl plan to be a considerable improvement upon the comm of tenure, in every case where cultivated and improved to be demised, though we regard it as none at all, when unimproved land is under consideration. Mr Marshall very much in the right when he recommended his trien to the landed interest of England, who, he says, entert tipathy against leases; but, when sitting in judgment t sons who had discussed the abstract question, namely, t of leases, it became him to determine differently. If a lease is of benefit to agriculture, (and Mr Marshall must otherwise he would not have recommended it), assuredl nineteen or twenty-one years endurance cannot be di

follows, of course, that his salary ought to be increased also. The object of an agent is to make his principal believe, that unless estates are constantly watched over, and the conduct of the tenantry strictly looked into, the property would soon be ruined, or at least greatly deteriorated. Whether Mr Marshall is much employed as an agent, we cannot say; but the samples of his abilities left with two noble Lords in Scotland, would rather incline us to think that his business in that line is not considerable. Be this as it may, it cannot be thought that the system recommended by the West York surveyors would meet with the approbation of Mr Marshall. Indeed, was their system acted upon, the business of an agent would be restricted to the setting of land and receiving of rents, instead of being extended to the general superintendance of the concerns of every one resident upon the estate over which the agent superintended.

We are not sure whether the following statement will throw any light on this subject; but as it relates to a conversation held with an *eléve* of Mr Marshall, who seemed animated with ideas similar to those which govern his principal, it cannot be considered as extraneous or irrelevant. This gentleman, under the authority and direction of Mr Marshall, was employed to improve the property of a respectable nobleman in the south of Scotland:—*à propos*, he is alluded to, p. 240, octavo edition of Mr Marshall's treatise upon Landed Property;—and, though there characterized as *a young improver*, actually raised a few quarters of rapeseed, at the trifling expense of one thousand pounds Sterling to his noble employer.—But to return.—Having occasion to spend an evening with Mr Marshall's *eléve*, the conversation turned upon lime husbandry, upon which our opinions seemed to differ widely. We hinted something about speaking from experience. 'Experience!' exclaimed the gentleman, 'is your experience equal to mine? Have you limed four thousand acres?' We replied, 'Not quite so much;' and added, 'that there was not a man in Britain who had limed that extent of ground.' 'Yes, I have done it.' 'Have you indeed! Pray, where? Certainly you must have possessed a farm of an enormous size?' 'Me possess a farm! I never rented an acre of land in my life; but I superintended the estates of Earl H—— in Cambridgeshire.' 'Oho! so it was the tenants who limed the four thousand acres!' 'Yes it was; and I directed and controuled their operations.'—So much for general agency.

In the *second* place, Mr Marshall is not one whit better pleased with what the West York surveyors say against restrictive covenants, than with their arguments in favour of leases. After detailing what was urged by the reporters concerning the condition

of a lease at its conclusion, he sarcastically exclaims, 'How, Farmer, no wheat to be sown for the incoming tenant? No turnips for feedage?' &c. &c. Here, he may be replied to in kind. 'What, Mr Agent! do you know no more about business than to talk in this style? If the incoming tenant enters at Whitsunday to the farm, he will cultivate turnip land, and summer-fallow for himself; and, of course, may go on with the operations of the farm, as if no change of tenants had occurred, though probably with less profit than in after seasons.'

In the *third* place, what is urged by the reporters in favour of subsetting, is treated contemptuously by Mr Marshall. To us it appears, that much good would follow, were the occupiers of land invested with that power; while, at the same time, we cannot discover the slightest injury which the proprietor would sustain from its exercise. Mr Marshall, however, is quite in the horrors at the very thought of conferring such a power upon a tenant, foolishly believing that the new tenant would proceed to acts of rascality and ruin. But what acts of rascality could the one tenant commit, which might not, with equal facility, be committed by the other? Certainly none. In fact, Mr Marshall makes a distinction, when in truth there is no difference. Besides, if the original holder of the lease remains bound for the fulfilment of all its conditions, the security for performance is strengthened, not diminished, by the transference which he reprobates.

In the *fourth* place, Mr Marshall objects to the building of cottages adjoining to every homestead, and to the payment of farm-servants in kind, *i. e.* in the necessaries of life,—measures strenuously recommended by the surveyors. Now, if Mr Marshall was not, in some measure, unacquainted with the practices of Yorkshire, he would have known that the great body of plough-servants are unmarried men, who receive bed and board in their masters' houses, and are, by the reporters, considered not to be so steady and faithful as married people. But married servants could not be kept, unless cottages were previously built for their accommodation; hence, the advantages of both measures are warmly insisted upon. Again, Mr Marshall reprobates the scheme of paying wages in kind, characterizing it as a remnant of an antiquated system, given up in every place where rural and political economy is sufficiently understood. He also objects to the plan, because it would allow the ploughman to riot amongst plenty in a year of scarcity, when all other classes are put on short allowance. On these points we differ with him very widely; because it has been found, in every district where payment is made chiefly in the necessaries of life, that farm servants

nts are better fed and better clothed, of more respectable cha-
:ters, and more faithful to their masters, than where they are
id in money, which is often wasted or mismanaged, and, at
events, entails a certain degree of trouble and expense upon
: servant, before he can be furnished with the means of sub-
tence. With regard to the evil tendency, in scarce times, of
:h a mode of payment, we have always observed, that the
:reme high price influenced farm-servants to sell a part of
:ir wages—say grain, to those who were in want of it; and
it the danger lay in the servant selling too much, rather than
retaining a greater quantity for the consumption of himself and
nily, than was called for. We would as soon deprive our
rses of food, as scrimp the servants who managed them. The
ne effect would necessarily follow privation in either case;
less work, while that work would undoubtedly be worse exe-
ted.

Before finishing our remarks on this part of the Review, we can-
t help noticing the many indecisive views taken by Mr Marshall
the West-Riding report. In numerous instances, he seems
solutely at a loss whether to bestow praise or censure; and, in
ners, both are blended in such nice proportions, as to make it
ficult to ascertain which preponderates. Perhaps the extracts
'en will not bear him out, even where the rod is most severely
ministered. We may hazard, as a general remark, what we
lieve has already been anticipated, viz. that the West-Riding
porters could not expect support from Mr Marshall; because,
:heir system of rural management had been adopted in all its
inches, there would have been little employment upon an e-
te for such a man as Mr Marshall.

The North-Riding Report falls next under consideration; but,
ng written by a gentleman, who is not only a landsurveyor,
t also employed as a general agent, meets with a most cordial
eption from Mr Marshall. In short, we do not observe the
ghtest censure bestowed, though much objectionable matter is
:sented in that report. The East-Riding reporter is treated in
: same gentle way, though Mr Marshall, in his concluding pa-
raph, states it to be probable, that he may not find another re-
:t in which good sense and *futility* are so equally and intimately
nded. In a word, the reporters, who restrict their inquiries
ploughing, sowing, harrowing and the like, will escape from
hands of Mr Marshall without sustaining the slightest inju-
; but, mercy upon those who meddle with political economy,
recommend free and open leases! Such will be lashed by Mr
rshall with the feelings of a West Indian black drummer; and
it is an easy matter to find fault, he will hold up their errors
with

with scorn and ridicule, whilst the good which they may have communicated will either be coldly noticed, or passed over as undeserving of attention.

We must now take our farewel of Mr Marshall; but, before parting, cannot refrain from congratulating him on the *fair* prospect which he enjoys, of reaping more profit from the county surveys, than all the surveyors put together. In 1793, he viewed the surveyors as a numerous band of assistants, fortunately thrown in his way by unforeseen circumstances, and charitably resolved to reap the fruit of their labours. In these views and expectations, he will not probably be disappointed, unless interdicted at the instance of the Board of Agriculture. Trusting the Board will not be so cruel, let us calculate the number of volumes which Mr Marshall may produce from the labours of his assistants. He has already fixed upon six as the most proper number for England, and, of course, must give two to Wales, because it is geographically divided into two provinces. With a little management, he may describe the Scottish counties in other six; and if he crosses the Channel, he has more good manners than to affront the Irish nation, by describing the husbandry of their country upon a more contracted scale. The aggregate is therefore twenty volumes; and, though the value of these volumes cannot, in this stage, be correctly ascertained, we may safely reckon it as a sufficient remuneration to Mr Marshall for all the slights and injuries he has received, either from the Board of Agriculture, or from any of the gentlemen connected with that meritorious and useful establishment. N.

The Plough-Wright's Assistant; or, a Practical Treatise on various Implements employed in Agriculture. Illustrated by sixteen Engravings. By Andrew Gray, Author of "The Experienced Mill-Wright." Edinburgh, Constable & Co. London, Murray. 1808.

Few countries are so well provided with suitable implements for executing rural labour as Great Britain; and, to this circumstance, we may attribute the increased and increasing perfection of its agriculture. We have ploughs of all the different kinds, which at any time have been invented; whilst harrows, wheel-carriages and other common implements, of various constructions and dimensions, are equally numerous. But it is in the articles which, strictly speaking, may be called agricultural machinery, that the superiority of Britain is most conspicuous. Drills for sowing grain, and other seeds, have been constructed upon scientific principles; and machines for separating grain from the straw, and for cleaning it from the offal with which it is intermixed, have

have been brought to a degree of perfection little expected when these machines were originally invented.

Imperfect labour is a consequence necessarily attendant upon defective implements. In former times, the construction of rural implements was almost entirely left to rude and ignorant artisans, whose operations were guided by no fixed or determinate principle, and with whom, improvement was left out of sight; because any thing of that nature was regarded as superfluous and unnecessary. To those who remember the ploughs generally used in Scotland thirty years ago, or who have viewed the implements used in many parts of England, even at the present day, the justice of the above remark will not be questioned. The principles on which ploughs and other rural implements should be constructed, have of late been ascertained with mathematical precision; and artisans in every district have been enabled to imitate what they had not judgment sufficient to invent. To SMALL, BAILEY, MEIKLE, and many other ingenious men, the public are under great obligations, for bringing rural implements to their present perfect state. In consequence of their exertions, labour is executed in a style infinitely superior to what was formerly practicable. Owing to more perfect labour, a greater produce is obtained from the earth. This has increased the rent-roll of proprietors, without lessening the welfare or prosperity of occupiers. In a word, the interest of the state has been in like manner promoted by the increased supply of the necessaries of life thereby furnished; without which, neither manufactures nor commerce could have been so extensively undertaken.

The author of the treatise now before us, in a sensible preface, states, that, notwithstanding the art of tilling and pulverizing the ground is of remote antiquity, yet that far less was known of the implements employed for that purpose by the ancients, than of the various warlike engines invented to batter down castles and fortified cities. Hence he is naturally led to conclude, that those among the antients most conversant in mechanics, had either not turned their attention to the construction of the various implements necessary in cultivating the ground, or else imagined, that however imperfect these implements might be, they would answer very well for so rude a purpose as breaking up the soil, or turning over a furrow. With the last part of the remark, we entirely coincide. Indeed, it is only of late that the practice of husbandry could, with the least truth, be called an art; those by whom it was carried on proceeding in an uniform path, without making either inquiry or observation.

Mr Gray afterwards explains the different implements used by the husbandman; and furnishes us with plates of each, pretty well

well executed. Speaking of the old Scots plough, we think he says more in its favour than that unwieldy and cumbersome implement is entitled to. Owing to the way in which the sock or share of that plough operates, a great deal of the ground is left to be turned over by the wrest; and this part acting as a forcer, necessarily requires a strong impelling power to be used, before the ground can be completely torn up and turned over. We freely admit, that the Scots plough will work in certain situations where the improved plough would have little effect. But this only can happen when the ground is full of stones. For waste land, free of stones, the improved plough, of larger dimensions and stronger parts than that commonly used, answers much better than the Scots plough. By the breadth of its share, and shape of its mouldboard, the furrow-slice is completely cut from the firm soil, both on the land side and at the bottom; whilst it is laid over or shouldered up in a more regular manner than practicable by the Scots plough.

We are not sure that Mr Gray speaks correctly about the improved ploughs, when he describes them under the character of the plough with the convex twisted mouldboard, the chain-plough, &c. In fact, the chain is not a necessary appendage to any plough, and is solely meant to strengthen the beam, and preserve it from injury. A chain may be put to any plough, without rendering necessary the slightest alteration upon its operating parts. The head and mouldboard are the operating parts in every plough; and, if a chain is applied, no more is required, than to change the position of the beam, in order that the line or direction of the draught may be duly maintained. Mr Gray does not seem to think very highly of the double-furrow plough; which, we believe, is the general idea of cultivators.

Harrows are next described. Then follows an account of a machine, whereby land may be harrowed in a wet season—an implement more than once noticed in this Magazine. Rollers, drills, wheel-carriages, &c. are also noticed; and the whole concludes with a concise and distinct description of the plan, elevation and section of a thrashing machine, executed in a very satisfactory manner.

Upon the whole, Mr Gray has given a neat, and, in general, a pretty accurate account of the several implements used in this country for executing rural labour. If he has not suggested much improvement upon rural implements, he has at least, with some slight exceptions, described the implements commonly used, with considerable minuteness and fidelity. Thinking every encouragement due to mechanists who endeavour to instruct the public mind on a subject of so much importance as the one he has

has undertaken, we are in duty bound to recommend Mr Gray to the notice of our readers. He seems to be a man of modesty, who does not claim praise where it is not merited; and, understanding mechanical principles well, perhaps more may be learned from his treatise, than from others couched in loftier terms, and conveying greater expectations. N.

General View of the Coal Trade of Scotland, chiefly that of the River Forth and Mid-Lothian, as connected with the supplying of Edinburgh and the North of Scotland with Fuel. To which is added, an Inquiry into the condition of those Women who carry Coals under ground in Scotland, known by the name of Coal-bearers. By ROBERT BALD, civil engineer, Alloa. Edinburgh, Oliphant & Brown. 1808.

IF there is one circumstance more conducive than another, to the welfare and prosperity of the inhabitants of Britain, or which renders their situation superior to that of their continental neighbours, it may be found in the full supply of fuel within its bounds; without which, the people could neither live in a comfortable state, nor could manufactures be carried on with that degree of success which hitherto has accompanied them. On the Continent, wood is chiefly used for fuel, to the great trouble and inconvenience of the inhabitants: but this article cannot be furnished to any extent in Britain; the small quantity of wood land, and the excessive population of the country, rendering a supply of it impracticable. Even peats, long the chief fuel in many districts, are yearly falling more and more into disuse in proportion as the value of summer labour in the field becomes better understood. In fact, the processes of digging and manufacturing peats are almost as expensive as the purchasing of coals; whilst the benefits of the one are much inferior to those obtained from the other. Hence, the right management of coal fields must be viewed as a subject of great importance, and as one wherein every individual, from the highest to the lowest, is deeply interested.

Mr Bald, author of the treatise on our table, appears to be well acquainted with the history of Scots coaleries, and the way in which the trade has been conducted, from the earliest period. From his information, we learn that coals were first worked in Scotland about the end of the thirteenth century, in lands belonging to the abbacy of Dunfermline; and that the coaleries were at that time drained of their water by mines or levels brought up from low grounds. We also learn, that recourse was had

had to water-machinery in 1600; and that, a short time afterwards, the coaleries at Culross were worked more extensively than any other in Scotland. The accounts given of the water-machines in use at the conclusion of the seventeenth century, and of the endeavours of that able, but unfortunate nobleman, John, Earl of Mar, to improve the coal-trade of Scotland, are highly interesting.

From what is stated respecting the price of coals at different periods, it appears, that, in 1715, great coal was put free on board in the river Forth, at 4s. 8d. per ton. The erection of fire engines seems to have produced a new era in the mining interests of Britain, putting every field of coal, even those supposed to be lost, within the command of its owner. Coaleries were therefore opened in every district; and their effects were so beneficial, that, in 1785, when the value of labour was greatly advanced, coals were shipped in the Forth at 4s. 10d. per ton, being only 2d. per ton higher than the price of 1715. Mr Wauchope of Edmonstone, in Mid-Lothian, was among the first in Scotland who erected these engines, having obtained license from a London Company, who were patentees of the invention, to make the erection. A curious but interesting account of the expense of erecting that engine is given, amounting, in all, to 1007*l.* 11s. 4d., exclusive of the expense of the engine-house. We are informed, that Mr Wauchope paid 240*l.* to the patentees for the permission given him.

When speaking of the difference in the price of coals in Glasgow and Edinburgh, Mr Bald remarks, that the coal trade of Glasgow is carried on upon much better principles than the trade of Edinburgh; in which remark we entirely agree with him. This matter being of much importance to our friends in the metropolis, we shall, for their benefit, make an extract from the work, sufficient to explain Mr Bald's sentiments.

'The coaleries which chiefly supply Edinburgh with coals by land-carriage, are situated, at an average, about five and a half miles distant; the distance to the nearest being about four miles, to the furthest about seven miles. No city in the kingdom is more fortunately situated, not only in respect of distance, but also in respect of the extent of coal-field, the thickness and number of seams.

'Those which supply Glasgow, are situated about four miles distant; the nearest being about two miles, the furthest about five miles from the city. We must, therefore, in point of distance, allow a proportion of price corresponding thereto.

'The price of coals upon the coalhills round Edinburgh, is 11s. 8d per ton; at Glasgow, it is, on an average, 8s. 4d. From this we must calculate: for whatever difference there may be in the working of the coal, it does not interfere with this statement.

'The

'The common hire which an Edinburgh carter makes, upon an average, per day, with one horse, is about 5*s*. A Glasgow carter will not work unless he can be assured of making from 9*s*. to 12*s*.

'The difference is great beyond all proportion, and more than compensates for the difference of distance to the coaleries. There must, therefore, either be some great fault here, or the Edinburgh carter has other means of subsisting than the mere hire.

'The business of carting the coals to Edinburgh appears to be done in the very worst style. The carts are badly constructed, and frequently not five inches deep in the sides, which are made of four rough pieces of wood fixed with pins at each corner, where it would not be easy to place a heavy load. The condition of the horses accords somewhat with the construction of the cart, and many of them cost from 3*l*. to 4*l*. only. The general weight brought to the city is 12 cwt.; and if 15 cwt. is at times brought, it is the highest. To distilleries and public works, where economy is attended to, the carters very willingly take a ton weight, or even 24 cwt.; which at least serves to show what may be done.

'At Glasgow, we see a different order of things. The cart is of excellent construction. The horses are strong, well fed, and cost from 30*l*. to 50*l*. each. The common weight carried is 24 cwt., and that in constant practice. Is it not remarkable to observe so great a difference in doing the same kind of work in the two greatest cities of Scotland, considering how short a distance there is between them?

'One cause of the great difference of the carter's hire, arises from the superior mode in which the coal sales are conducted at Glasgow. There each coalery has an agent in the city, who receives orders for coals; these orders are sent out each day to the respective coaleries, by which means, the manager appoints each carter his day's work before he leaves the coalery in the morning. By this plan, the delivery of the coals is quite regular; no time is lost; all imposition is avoided, as the carter has nothing to do with the money for the coals, but is answerable for the weight delivered. This last is of much importance; for, without this, it is hard to say what the price of the coals is. The City of Edinburgh has had much to do attempting to correct the great abuses in this alone; and this point has not yet been effectually adjusted.

'The system pursued by the Edinburgh carters is very different indeed, which not only operates against the inhabitants, but against themselves.

'When the coals are in great request, and no stock of them upon the hills, they go in crowds to the different coaleries, and wait very long ere they are served; frequently lose a whole day. Each cart of coals is weighed by 4 cwt. at a time upon a common beam; this is the practice of the best coaleries, by which much time is lost. The introduction of weighing-machines, as practised at Glasgow, would be a great improvement. When the demand becomes less, the coals

are

are procured sooner at the hills; but as they frequently have no orders for coals in the city, it is no uncommon thing for them to lose a day standing in the streets before they get a merchant; and from this view of the matter, it is wonderful how they contrive to keep themselves and horses alive, even with all their industry and skill.' p. 29—33.

Mr Bald states another cause which enhances the price of coal in Edinburgh, namely, a strong and deep-rooted prejudice which the inhabitants entertain for great coal, instead of purchasing small coal alongst with it, as is the custom in Glasgow and other parts. This predilection for large blocks or pieces of coal undoubtedly increases the price, whilst it gives additional trouble to the purchasers afterward; because it is impossible to burn such masses of coal before they are separated and broke into smaller pieces. The West-country custom is much more frugal, consequently more beneficial. The round coals are first laid aside, and the dross is separated from the small cubic pieces, by using a riddle of an inch mesh. The coals which keep above the riddle are then thrown into the cart, and the round or large pieces are built above them; while the dross, which is separated, is reserved for the use of steam-engines, and sold at 20d. per ton on the hills.

We are extremely sorry that our limits prevent us from noticing this useful and valuable treatise in a more copious manner; but cannot lay it aside, without thanking Mr Bald for the judicious and instructing information which he has at this time communicated. We are at all times happy to hear professional men, especially if they are masters of the subject undertaken to be discussed. This happens to be the case at present; therefore, Mr Bald's view of the coal trade is warmly recommended to the notice of our readers. N.

POSTSCRIPT TO BRANCH FIRST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Sir,——With respect to the mildew or rust upon wheat-straw, though it has always been most prevalent in rainy seasons, yet it does not appear that a moist state of the atmosphere is indispensably necessary for the production of that malady, as the crops in the counties of Northumberland and Durham were infected, even in the dry season of 1805, as may be seen by inspecting the Northumberland Report in the November Magazine of that year.

I am happy to see, by the 3d section of the President's address to the Board of Agriculture, inserted in your last Number, that my theory of the curl in potatoes (vol. III. p. 345.), has stood the test of actual experiment, and appears to have been correct, notwithstanding the *weighty* arguments adduced against it, by your correspondent A. S. Yours, &c. P. H.

BRANCH

BRANCH III.

AGRICULTURAL INTELLIGENCE.

'HE failure of the wheat crop, noticed in our last, proves greate
t at first imagined, and appears to have taken place in alm
y district, though in different degrees, according to the natur
the stage of growth at which plants had arrived when
:her set in, and the situation of fields occupied with tha
erally speaking, sea air seems to have had a beneficial
in counteracting the prevailing malady, serving, perh
n the excessive heat which prevailed in the latter part of
the whole of July, and afterwards preventing that exhale
utrid effluvia, which seemed in many places to issue from
ice, after a full supply of moisture was obtained. Upon th
ers it is difficult to reason with any certainty; because, thou
ffects are apparent upon the slightest investigation, the cau
nore dark and difficult to be understood. One thing, how
tain, viz. that the wheats on the coast-side lands are of
quality to those cultivated only a few miles from the sea-shore;
fore it may be inferred, that the superiority of quality was oc-
ned by local circumstances. We have uniformly maintained,
atmospherical influence was the true source of every malady to
h wheat is liable, that of smut excepted; and what occurre
eason has considerably strengthened our original opinion. Had
sive heat and violent drought continued till harvest arrive
y likely that many wheat fields upon dry soils would have been
ly injured, by a want of due nourishment. This atrophy,
ver, could only have happened to a certain extent, and its
quences, very likely, would not have been greatly prejudi-
An excess of moisture, on the contrary, is always felt as a
al evil, especially if it falls upon the plant when forming the
, or even when the grain is in an embryo state. In every sea-
when rains continue for any considerable length of time while
ation is going forward, the cups of the ear, especially those
top of the plant, are always unfilled; whilst the grain de-
d in the other cups, is lean, shrivelled and ill-coloured. In
st instance, a kind of abortion takes place; and, in the latter,
oung grain being stinted of nourishment, does not fill or
se to the size of healthy grain; therefore, in point of quality,
s turns out defective. Had we been in the West Indies
time, and learned that the weather from 24th July to 12th
st was almost incessantly wet, we would at once have pre-
that wheat would be a failing crop; and on these predic-
would have confidently relied, because similar ones were al-
verified in the course of a pretty lengthened experience.
active mind of SIR JOHN SINCLAIR, Baronet, was stimulated,

ed and circulated a small pamphlet on the culture of spring
and enforces the use of that variety, in certain situations
cumstances, with great energy. The public have long bee
numerous obligations to Sir John Sinclair: but the resul
investigations with which he has at this time favoured the
be regarded as highly conducive to the interest of British
ture, and that in a branch confessedly of the first importanc

The harvesting of the crop was a teazing affair in many d
and much grain, chiefly barley and oats, was lost by sprout
shedding, in consequence of the wetness which prevailed for
weeks. From all the accounts furnished us it appears, that b
ley and oats may be regarded something like average crop
quantity; but that the former is coarse, does not malt w
contains less saccharine substance than usual; whilst the l
general cases, yield about one twelfth less meal than was p
last year. Beans and peas are generally short crops in ev
trict. Turnips, in many parts, are defective; but potatoe
bundant in every quarter, and of fine quality:—circumstanc
calculable benefit to the nation at large, especially in a year
scarcity of bread corn may be dreaded.

Markets for grain have varied considerably since last qu
was then predicted. Wheat has advanced a good deal hi
price; but the other grains have felt an equal diminishment.
present state of public matters, it is impracticable to speak v
certainty concerning the rate of prices afterwards. One thin
ever, is certain, that wheats must get up in value, if an i

ng to be perfectly executed. Taking a broad view of the state of arm labour, it may be reported as in a much more favourable state han it was last year at this date.

It may here be noticed, that inquiries have lately been made repecting the right of individuals to hunt upon arable land contrary o the will of occupiers; and that complaints have reached us a-ainst certain persons who presumed to hunt in what is called an insportsmanlike manner. Upon such a subject, recourse cannot be ad to statute law, because we apprehend that statute law is silent, n so far as the occupiers of land are concerned. But if common aw is resorted to, the first principle of which is, that no man has a ight to injure the property of another, the subject may easily be lucidated. At common law, the sufferer may bring an action of lamages against the aggressor or aggressors, and most undoubtedly vould receive ample satisfaction. But whether law would protect im, were forcible resistance made to the inroads of depredators, we re not altogether certain; though we have heard lawyers of the rst rank maintain, that property in the field was more sacred even han that which was deposited within the four walls of a house; and hat all kinds of weapons might be used in protection of the one, hich could legally be used in protection of the other. Without retending, however, to argue the question further in this shape, it ay be considered in another light, and upon principles which no *eal sportsman* will reject. There is an *etiquette* of the field, as well s of the drawing-room, the breaking of which is disgraceful in ither case; and by this etiquette our opinion at this time shall be uided. A real sportsman will not hunt with hounds in an enclosed ountry, if an open one is within his reach; though perhaps he may ollow the chase through enclosures, should the object in pursuit ake that direction. A real sportsman will not wantonly injure the roperty of any person; therefore, when in pursuit of the chase, e will not go over fences when a gate is in sight; nor will he, upn any account, shape his course through wheat fields or grass elds, when such a course can possibly be avoided. In short, a real portsman will seldom do any hurt to occupiers, through whose nds he passes; much less will he answer them with insolence, when omplaints are offered against an aggression; and should he, in the eat of the chase, commit a trespass, he will at once offer compensa-ion. Those who act differently are not real sportsmen: Such must e considered as breaking through the etiquette established in favour f those who partake of the sports of the field, and as having forfeited all right to the privileges tacitly enjoyed by those who act in a portsmanlike manner. Bringing these rules to bear upon particular ases, the merits of each may be easily ascertained. The law of ne field does not justify going through standing corn or clover elds, either on foot or on horseback, in quest of game; nor will it stify the searching of a turnip field, or riding over grass land, whether old or young, with greyhounds or pointers, in quest of ares or partridges, especially in the early part of the season, when ock remain on the pastures. None of these trespasses ought to be

suffered, because every one of them is mischievous and injuri
private property. In fact, they are all contrary to the etiquet
the field; therefore, the person who coolly and calmly con
them, has not the slightest claim to the character of *a real sports*
or to the enjoyment of the privileges granted by courtesy in fa
of those who hunt in *a sportsmanlike manner.*

SCOTLAND.

Letter from a Gentleman who lately visited Orkney and Zetland, d
4th November.

'THE first objects that presented themselves to my view, on
ing on the deck of the cutter that brought me to Kirkwall bay
the 1st of June, about half an hour past five A. M. were a he
about fifteen or sixteen cattle quietly grazing on a field of oats
companied by a flock of about seventy geese, young and old. T
is a good deal of useful land in the vicinity of the town of K
wall; and, in many parts of Orkney, the soil is of most exce
quality; but, from the rotation being *everlastingly* bigg with
nure, followed by oats, with a small piece of potatoes, the c
cannot be very productive. Turnip is not cultivated by ten in
duals in Orkney, and by still fewer in Zetland; nor is clover
rye-grass much cultivated; yet these crops grow luxuriantly
put into the ground under fair circumstances. But, really, wh
is considered that there are no leases granted, or few at least, e
under the fetters of burning tangle for making kelp, or cat
ling, which occupy the whole summer, and that there is no w
herding in either country,—cattle, horses, pigs, sheep and geese
velling over the whole vicinity from the middle of October to
middle of May,—the culture of these crops becomes morally im
sible. For, as long as the system of long-haltering continues, I
if any, benefit can be derived from turnip or artificial grasses, in
country. The cattle and horses are in the greatest misery tow
spring; the numbers kept being far too great for the quantit
food that is or can be provided for them in winter, under the
sent circumstances. The consequence is, that many die annual
spring; and those that survive, have hardly time to recover
their poverty, before winter again sets in.

'Kelp is the great object in Orkney, and fish in Zetland. F
thing is sacrificed to the manufacture of kelp, and catching of
In Zetland, the lands are chiefly let to tacksmen, who relet the
what are called tenants, literally fishermen. Those tenants oc
from three or four acres, down to little more than one acre of a
with more or less pasturage, commonly of little value from
overstocked,—though this fault is more common in Orkney
Zetland. In Orkney, the arable may extend to seven acr
each tenant. The tenants are bound, except in a few case
burn kelp, or to fish for the proprietor, or for the tacksm
the estate is let to one at a fixed price, commonly paid in m
Orkney, and in money in Shetland, at a certain value for the c

t sorts of fish in a green state;—on some estates by the tale, but iefly by weight. The tacksmen in Zetland resemble the middlen in Ireland. They produce the same evil effects on husbandry. he systems are radically wrong in both countries, so far as farmg is concerned. Indeed, there are few farmers, properly so called, these countries. During the whole summer, when they should employed in rearing green crops by preparing the soil for a crop grain, attending to their live-stock, &c. they are burning sea-weed, catching ling.

'The proprietors in both countries are a species of feuers. The u-duties are payable in kind; in grain, chiefly, in Orkney—deliverl by weight, attempted to be ascertained by machines called bisars and pundlars, one, if not both of which, are constructed on lse or vague principles. In seasons when the crop is bad, this ode of payment becomes very heavy, or indeed ruinous; because requires the largest quantity to afford the weight of grain payable the feuer, when the quantity grown on the lands he feus is the nallest.

'Sir John Sinclair has a considerable farm in his own hand, near hurso. The land is generally good, and some of his crops have en excellent; but I understand his greatest improvements are at angwell, near Berrydale, where I shall be to-morrow.

'There is a Mr Traill sheriff of this county, who is carrying on nprovements to much purpose: he is one of the ablest men I ever nversed with. The crops are not reckoned extraordinary in Zetnd, Orkney or Caithness, this season, except potatoes, which are rtainly very productive.'

BSTRACT ACCOUNT *of* WHEAT *sold in* HADDINGTON MARKET, *for ready Money, from 6th November* 1807, *to 28th October* 1808; *communicated by* Mr TODRICK, *Clerk of the Market.*

Date.	Quantity.	Value.			Weekly Average.			Monthly Average.		
1807.	BOLLS.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Nov. 6.	500	793	6	6	1	11	$8\frac{5}{21}$			
13.	416	678	1	3	1	12	$7\frac{3}{21}$			
20.	675	1088	17	0	1	12	$3\frac{1}{21}$			
27.	667	1100	17	3	1	13	$0\frac{1}{21}$			
	2258	3661	2	0		—		1	12	$5\frac{1}{21}$
Dec. 4.	922	1469	2	6	1	11	$10\frac{5}{21}$			
11.	1170	1916	1	6	1	12	9			
18.	812	1370	18	3	1	13	$9\frac{2}{21}$			
25.	980	1606	8	0	1	12	$9\frac{4}{21}$			
	3884	6362	10	3		—		1	12	$9\frac{1}{21}$
1808.										
Jan. 1.	713	1144	3	3	1	12	$1\frac{1}{21}$			
8.	1007	1569	12	6	1	11	$2\frac{1}{21}$			

Date. 1808.	*Quantity.* BOLLS.	*Value.* £.	s.	d.	*Weekly Average.* £.	s.	d.	*Monthly Av* £.	s.
Jan. 15.	695	1114	6	0	1	12	$0\frac{9}{11}$		
22.	866	1424	5	0	1	12	$10\frac{8}{11}$		
29.	793	1308	3	3	1	12	$11\frac{10}{11}$		
	4074	6560	10	0		—		1	12
Feb. 5.	746	1194	18	0	1	12	$0\frac{5}{11}$		
12	725	1162	9	0	1	12	$0\frac{2}{11}$		
19.	545	891	8	0	1	12	$8\frac{6}{11}$		
26.	783	1258	11	6	1	12	$1\frac{9}{11}$		
	2799	4507	6	6		—		1	12
Mar. 4.	330	548	7	3	1	13	$2\frac{1}{11}$		
11.	299	508	15	0	1	14	$0\frac{4}{11}$		
18.	359	610	6	0	1	14	0		
25.	392	668	18	0	1	14	$1\frac{6}{11}$		
	1380	2336	6	3		—		1	13
Apr. 1.	410	704	10	6	1	14	$4\frac{4}{11}$		
8.	617	1078	7	0	1	14	$11\frac{1}{11}$		
15.	586	1017	8	0	1	14	$8\frac{8}{11}$		
22.	512	903	12	3	1	15	$3\frac{6}{11}$		
29.	832	1483	12	0	1	15	$7\frac{10}{11}$		
	2957	5187	9	9		—		1	15
May 6.	647	1247	1	0	1	18	$6\frac{7}{11}$		
13.	722	1349	16	6	1	17	$4\frac{8}{11}$		
20.	640	1246	14	0	1	18	$11\frac{6}{11}$		
27.	414	847	15	6	2	0	$11\frac{5}{11}$		
	2423	4691	7	0		—		1	19
June 3.	550	1206	4	0	2	3	$10\frac{4}{11}$		
10.	512	1123	19	6	2	3	$10\frac{10}{11}$		
17.	474	1013	18	0	2	2	$9\frac{4}{11}$		
24.	554	1190	6	6	2	2	$11\frac{6}{11}$		
	2090	4534	8	0		—		2	3
July 1.	502	1054	3	9	2	1	$11\frac{10}{11}$		
8.	641	1341	3	6	2	1	$9\frac{6}{11}$		
15.	630	1329	4	3	2	2	$2\frac{4}{11}$		
22.	714	1458	19	6	2	0	$10\frac{4}{11}$		
29.	634	1288	2	0	2	0	$7\frac{7}{11}$		
	3121	6471	13	0		—		2	1

Date. 1808.	*Quantity.* BOLLS.	*Value.* £.	s.	d.	*Weekly Average.* £.	s.	d.	*Monthly Average.* £.	s.	d.
Aug. 5.	694	1401	17	6	2	0	$4\frac{9}{17}$			
12.	520	1088	12	6	2	1	$10\frac{5}{17}$			
19.	524	1201	18	0	2	5	$10\frac{5}{17}$			
26.	330	776	10	0	2	7	$0\frac{9}{17}$			
	2068	4468	18	0		—		2	3	$2\frac{7}{17}$
Sept. 2.	441	1016	18	9	2	6	$1\frac{5}{17}$			
9.	509	1165	6	0	2	5	$9\frac{5}{17}$			
16.	451	1075	3	0	2	7	$8\frac{3}{17}$			
23.	495	1175	8	0	2	7	$5\frac{10}{17}$			
30.	580	1334	8	6	2	6	$0\frac{3}{17}$			
	2476	5767	4	3		—		2	6	7
Oct. 7.	611	1416	7	6	2	6	$4\frac{4}{17}$			
14.	361	857	17	6	2	7	$6\frac{1}{17}$			
21.	772	1849	3	0	2	7	$10\frac{16}{17}$			
28.	829	2033	4	6	2	9	$0\frac{7}{17}$			
	2573	6156	12	6		—		2	7	$10\frac{3}{17}$

ABSTRACT.

DATES. 1807.	*Monthly Quantity.* BOLLS.	*Monthly Value.* L.	s.	d.	*Monthly Average.* L.	s.	d.	*Annual Average.* L.	s	d.
November	2258	3661	2	0	1	12	$5\frac{1}{17}$			
December	3884	6362	10	3	1	12	$9\frac{1}{17}$			
1808.										
January	4074	6560	10	0	1	12	$2\frac{5}{17}$			
February	2799	4507	6	6	1	12	$8\frac{4}{17}$			
March	1380	2836	6	3	1	13	$10\frac{1}{17}$			
April	2957	5187	9	9	1	15	1			
May	2423	4691	7	0	1	19	$8\frac{8}{17}$			
June	2090	4534	8	0	2	3	$4\frac{8}{17}$			
July	3121	6471	13	0	2	1	$5\frac{7}{17}$			
August	2068	4468	18	0	2	3	$2\frac{7}{17}$			
September	2476	5767	4	3	2	6	7			
October	2573	6156	12	6	2	7	$10\frac{3}{17}$			
	32103	60705	7	6		—		1	17	$9\frac{9}{12}$

Banffshire Quarterly Report.

THE flattering hopes entertained at the date of last report, were but partially realized, owing to the continuance of rain and fogs for some weeks, whereby the grain crops were prevented from filling and ripening in a perfect manner. Cutting with the scythe has bee

practised in this district for two years past; and the advantages of the practice are now fully ascertained. The stack-yards, however, are smaller than usual; and hay is a scarce article, whilst little of it is of good quality.

Harvest was tedious; but the crop was at last secured in the stack-yard, without receiving any material damage, except what was sustained from so much of it being opened out. Turnips, in general, are a full crop, although some of the earliest fields were much injured by caterpillars, which lately have visited the district. Winter keep is by no means plentiful; but a great relief has been obtained by the cattle-dealer, from sales being brisk for some time past. Potatoes are an abundant crop.——14*th November.*

Ross-shire Quarterly Report.

Rarely does there happen a harvest when the crop is so much exposed to hazard, as was the case with the preceding one. The two first weeks of September having been constantly wet and foggy, without a breath of air, threatened much loss by sprouting,—a good deal of corn being then in the sheaf. Gaiting was resorted to extensively, which, while it allowed shearing to go forward, occasioned loss both of time and corn, when it became fit for binding. The weather having been very warm during this period of wetness, rendered the uncut corn dead ripe; and a complete change then taking place, the risk of shaking was very great. It being the general practice here to engage a set number of shearers for the season, puts it out of the power of any one to procure an additional number when circumstances require it. Providentially the crop was secured with little loss, and in good order, and was mostly in the stack by the first week of October. The foregoing report of the harvest particularly applies to Easter Ross. In Wester Ross, circumstances were not so bad. The foul weather came mostly from the east, and was not injurious in that quarter; and the same reason regarding the weather in the end of July, caused an uncommon superiority in the quality of grain, and abundance of the crop in the West, compared to the East. On thrashing, a general deficiency is complained of, particularly of the wheat crop, which probably is not exaggerated, by stating it at fully one fourth below what was once expected. Oats do not yield their usual produce of meal. Potatoes are everywhere an abundant crop, and of excellent quality.

The price of cattle was at the lowest ebb with us in August last. They advanced a little in value after the Falkirk September tryst; and the October tryst likewise being a good market, caused a great demand at Beauly market, which happened on the 19th and 20th ultimo. The number of cattle, shown there, was very great; and, excepting what were very inferior, all sold at an advance of about 20 per cent. from the prices in August.

Towards the close of harvest, the weather became very cold and boisterous, attended with heavy showers of hail and rain; which increased about the middle of October, when the highest mountains were covered with snow, and the cold was severe. The

last three weeks were on the opposite extreme—mild, dry, and favourable as could be wished. The usual breadth of wheat has been got sown in excellent order, and ploughing is well forward. Turnips are a fair crop; but it is suspected several fields would have produced a greater weight, had it not been for the ravages of a caterpillar resembling the kail-worm, which appeared on the leaves in September, and *holed* them much, which it was supposed stinted their growth.

Several arable farms have been let, within the last twelve months, to South-country farmers, on nineteen years leases. From 30s. to 40s. per acre have been promised for the best lands. Lord Seaforth has, however, lately obtained so high as three guineas per acre for lands of his from Atholl men; and fully as much proportionally is offered for part of his inferior lands, thereby acceding to the justness of the ideas of these strangers. In general, we are disposed to acknowledge the introduction of improvements from the South; and it will be well for the country if this recent example can be followed with advantage.

The county is under many obligations to Donald Macleod Esq. of Geanies, and Sir George Stewart Mackenzie of Coul, Baronet, for the introduction of the pure Merino breed of sheep from the King's flock, which are reported to be thriving under the care of these gentlemen; and we have further the satisfaction to announce the arrival, in this county, of the famous Highland bull purchased from Mr Macniel of Colonsay by Mr Sitwell of Barmoor Castle, for two hundred guineas, and now the property of Sir Charles Ross of Balnagowan, Baronet. Sir Charles has long taken the lead in the rearing of black cattle; and, by judicious and spirited exertions, seems disposed to maintain his superiority. While mentioning individual merit, no one has a juster claim to honourable notice than Hugh Rose Esq. of Glasstullich. He has had a flock of South-down sheep in excellent keeping for some years on his property; and the very conspicuous manner in which he shows himself in the improvement of his estate, well entitles him to be numbered with those who deserve well of their country.—17*th November.*

Inverness-shire Quarterly Report.

The weather in harvest was generally favourable, and the crop was secured in good condition. Taking it as a whole, the crop must, however, be reported as below an average, both in point of quantity and quality; for though the wheat did not mildew, the grain is small, and much shrivelled, owing to the excessive heats of July, and the after wetness. A like remark is applicable to oats. Barley does not malt well, though the return is above par. Potatoes are an excellent crop, both as to quantity and quality, and will fully make up for the deficiency of oats.

At Beauly market, October 20th, there was an unusual show of cattle presented, and sales were brisk at tolerable prices. At the second market held yesterday, prices were at least 10 per cent. below those of the first market, whilst few sales were made even at that reduction.

There has been more work done this year at t
than in any year since the commencement of tha
Three locks on this side are quite finished, and
hand. The work is equally forward on the
though, at present, there is rather a want of hai
sign that the people of the country are not desti
——18*th November.*

Morayshire Quarterly Report

After much interruption, and some partial d
outset of harvest, the weather terminated favour
were latest of cutting down had their grain sect
dition. As wheat and barley are our early crop
fered more than oats. The former is still of p
ty, compared to the accounts received from th
and south of Scotland; and the quantity will n
an average crop.

Barley is by no means fine, and little will be f
brewer, whose aim it must be to purchase the be
may therefore be supposed, that so much of this a
quality, with no vent for distillation, it will hang h
hand. The millers complain that the oats do n
the price of which is 30s. per 9 stone Amsterdam
have yet been made, nor are the sellers and buy
at one; for while the former naturally look for
ter are deterred by the probability of America
The few country sales of barley presently going
34s. per boll.

The autumn has been peculiarly favourable fo
perhaps a greater breadth was never laid down

Cattle have had ready sale, for last two mont
the breeder; and farmers are possessed of goo
on turnips. This crop is abundant; and as
likely to interrupt the spring market for fat, it i
prices will be obtained.——*Nov.* 18.

Dumfrieshire Quarterly Repo

The fine weather, which commenced in thi
day of May, continued throughout the whole s
produce appeared plentiful; and the hay and cor
and good, and have filled the barn yards abundan
however, do not prove so productive as might
from the uncommonly good weather. Barley a
an average, either in quantity or quality; and
remarkable deficiency. Almost the whole of t
peared to grow so luxuriantly on the holms of N
was destroyed by mildew, which appeared
July. The straw became brown, and some of
and where it was so, the grain was almost
best upon the holms was spotted in the straw, and
of an ordinary crop. The wheat sown on the
was but little injured; yet, all is more or less ir

in quality. This, however, does not seem to discourage the farmer. A large quantity is sown for next year; and much of it being with unfilled wheat, it remains to see the effect of such on the ensuing crop. It is remarkable, that the wheat sown so late as the first week of last March, has turned out the best crop: it appears to have no defect, but what is owing to its being laid by the thunder showers in the end of July. From this it would appear, that mildew had attacked the corns before these late sown wheats were fully shot, or began to fill. It would also appear, that the effects of this malignant dew are beyond remedy from the hand of man. It no doubt arises from the destructive quality in the moisture of the fog or mists that lodge at night in the low or hollow grounds in the summer season; and that they are most hurtful, where the air is stagnated on such grounds by woods and hedges. Indeed, it seems to be agreed, that these improvements do not add to the quality of any species of grain, however they may add to the beauties of a country, and the protection of pastures. It is extremely probable, that it may have been from the effect of such mildews, that our forefathers, some centuries ago, when the low grounds were more covered with woods, abandoned those situations, and cultivated the higher grounds, where modern agriculturists would think, and probably find, their labour lost.

The pastures through the whole of this season, continued the most abundant that is remembered, and were so to the very tops of the mountains. This proved a providential circumstance, as otherwise the stocks of sheep, which were rendered, by the severe winter and spring, so extremely low in condition, would not probably have recovered in an ordinary season. It is to the same abundance that we have to attribute the increased demand which has occurred in the autumn for sheep and cattle, and which was so necessary for the farmer: no doubt, we may also attribute it to the additional employment given to the manufacturer, by the happy extension of trade to the Western world.——19*th November.*

Forfarshire Quarterly Report.

The harvest, in this county, was general about the last week of August, and finished about the middle of September; and, excepting some showery weather at the beginning, was favourable for securing the crop. The stack-yards present a more bulky appearance than last season; but it is apprehended that the produce of grain will not nearly correspond with the quantity of fodder.

Wheat is a failing crop. On tenacious soils it is best: on free, loamy, or gravelly land, after fallow, it suffered most from mildew, especially where the crop had a full and promising appearance. The quantity per acre can therefore scarcely be reckoned two thirds of an average crop. Few good samples of barley are to be seen, and oats are deficient in meal in many instances. Potatoes are a better crop than for several years past; and turnips have improved considerably on dry soils.

The favourable autumn has permitted a great quantity of wheat to be put in the ground in a satisfactory manner. Little is yet sown

in spring in this county; but as more turnips are now consumed by sheep than formerly, it is supposed the sowing at that season will considerably increase.

Land rent has been on the rise of late; and, considering the number of candidates always ready to offer when a farm is out of lease, it is presumed it will continue to do so, however problematical it may be to many agriculturists.——*Nov.* 21.

Letter from Glasgow, 21st November.

'ALTHOUGH the mildew, or blight, which has been so destructive to the wheat crop in other parts of the kingdom, had happily not visited this part of the country; and though, from the rich and showy appearance of this grain in the field, we had reason to expect a corresponding produce in the barn, we are sorry to say this expectation has not been realized. The farmers uniformly complain of a deficiency: some say the stack yields one fourth less than last year. Whilst, then, a defalcation in the quantity must be allowed, it is so far gratifying, to be enabled to state, that the quality is almost universally good. At such an early period, we have never before seen the new wheat brought to market in such a fine, dry condition, and so completely ready for the mill. It is so much so, that our bakers have even ventured to let it constitute the half of their grist, and are perfectly satisfied with the flour which they receive in return. This is a circumstance which we consider peculiarly fortunate at the present time, when the stock of old wheat, now become small, is daily getting less, and when almost every port of the continent of Europe, and of North America, whence we drew supplies, is shut against us. By means of it, we hope we shall be able to put off, without any material inconvenience, till a change for the better occur in the political world, and till the consequent considerable importations take place.

'There is not much barley grown in this neighbourhood. What we had, however, turns out tolerably well, both in quantity and quality. Of oats, the accounts are various. Those grown on rich soils do not meal so well as was expected, whilst those on the moorlands never produced better. Neither this grain, nor barley, have yet appeared in any quantity at market.

'Beans and peas, though not very productive, are generally fine in quality. Potatoes have certainly turned out well. It is true, the complaints with regard to quantity, which we mentioned in our last, are still made; but we look upon these as being only partially entitled to notice; and conceive, upon the whole, that we may safely pronounce the crop, in every respect, to have been good.

'The fine weather which we have experienced since our letter of the 19th August, has been peculiarly favourable for field operations. Every species of grain was got secured in the best possible condition; and the wheat seed has been made under the most favourable circumstances. We have never seen, in any past year, a larger quantity sown of this grain.

'During the last three months, the importations of wheat having been extremely limited, and the reports of the direful effects of mil-

dew throughout the kingdom, busily promulgated, the price of this grain has for some time been advancing. It has now reached a pretty high rate; and though we do not imagine it will go much higher, we cannot suppose (every thing considered) it will decline much, unless the embargo in the States, which will be the grand cause, is speedily removed.

'Since the date of our last, till within these few days, oats have been almost daily declining in price. They have now paused; nay, even a briskness has been excited, and a little advance perhaps obtained, on account of a considerable demand for the English market. But this demand will be but temporary; and, of course, we do not imagine that it will materially affect the price. If we receive the usual supplies from Ireland and the south of Scotland, we are of opinion that this grain will experience no considerable fluctuation for some time.

'Notwithstanding the distillation from malt is further prohibited, the price of barley still continues very high. Beans are also far above their value. We think that, ere long, both these sorts of grain must fall considerably.

Mid-Lothian Quarterly Report.

THE dismal weather noticed in last Report, continued until the 15th of August, when a favourable change took place, just when the crop was become ready for the sickle; but the effects of four weeks of almost continued rain, were not to be entirely removed by any weather. The grain was beat down, and the straw rendered soft by being constantly drenched—a sure indication of an ungifty crop; of course, it is found that wheat is defective, both in quantity and quality. Oats, which promised to be more than commonly abundant, are not so deficient in quantity as in quality. Barley is small in the grain, but it is healthy and well got, and may be rated an average crop. On the other hand, the potato crop is universally good, and the quality excellent, and has been secured under the most healthy and favourable circumstances.

Considering the deplorable state of the fallows before harvest, the sowing of wheat has been executed far superior to what could have been expected, owing to the continuance of a favourable autumn. For the same reason, the crops in the high districts of the county were well ripened; and, what may appear rather singular, they are said to have been less affected by the previous bad weather than in the lower districts, probably owing to their not being so far advanced, and having had more time to recover the effects of such superabundant moisture, and likewise from less luxuriance.

Turnips are, in general, a partial crop, particularly upon heavy-bottomed land; upon genuine turnip soils, they have made great progress since harvest, and are a decent crop; their quality is firm and good, and the stock upon them are thriving well; but it is apprehended that much stock will be brought prematurely to market, for want of food to carry them on until that period when it will be most in demand.——22. *Nov.*

Extract of a Letter from Ayrshire.—Nov. 22.

'This, on the whole, has been one of the most extraordinary seasons ever remembered. From the 1st of May to the 1st of October, we had not one single cold day. It was uniformly mild and warm; and vegetation was carried on, through the whole of it, in the most remarkable manner; and, had it not been for the very heavy thunder-showers in July and August, this part of Scotland could never, perhaps, have boasted of so plentiful a crop. But these heavy rains have most grievously disappointed the hopes of the farmer, and of the county in general; which is the more to be lamented, Britain being at present, in a great measure, if not entirely, shut up within itself for its own supplies. The crop, I am afraid, must be pronounced a deficient one; and, as a proof of this, all kinds of provisions are rapidly rising in price. The grain market has not, though rising daily, yet found its level, which it would be happy for the country that it did soon, so as that people might begin to husband their stores in time. For there is no other visible means, just now, to make up the deficiency, but to use sparingly what we have; and a high price obliges people to do this, whether they be willing or not.

'Cattle markets have considerably revived of late; and, from the prices given, both by the dealers and the butchers, the graziers will be tolerably indemnified. The prices of butter and sweet-milk cheese have risen enormously. Butter is selling as high as 30s. the Ayrshire stone of 24 lib. English; and the cheese at 14s. and 15s. Potatoes 10s. and 12s. the boll. God help the poor annuitants, who are confined to a fixed sum.

'This state of things, as would naturally be expected, has continued, or rather increased, the rage and madness for farms. Scarce a farm is now set that does not bring three, four, and even five rents of the last set. This is a folly that must in time cure itself, and perhaps at no very distant period. The prices of all kinds of farm and handicraft work continue steady; nothing diminished, whatever they may be increased. After all, though this state of things may bear hard upon some individuals, it ought not to be looked upon with despondency, but, in my opinion, quite the reverse. I look upon it as a most certain and sure sign of the increasing population and prosperity of the country. The truth of this proposition must be obvious to every one who thinks coolly, and divested of passion; and the proof of it is confined within a very narrow compass. It is proved by the simple *demand* for the different articles of subsistence. It is the demand that in all cases regulates the price: and, while the price of labour, and the demand for subsistence continues, it is a sure sign that the nation is able to pay for them. This, again, rests upon our independence as a nation, and our national superiority, and thereby ultimately tends to inculcate and cherish a spirit of true patriotism in the breast of every wellwisher of his country. Let all your gloomy, peevish and discontented or inflammatory spirits think seriously upon this; and it will help to sooth their minds, and dispose them to bear the future,

ind, I am afraid, approaching pressures, with more patience. They nay be disposed to wreak their vengeance upon the poor farmer, but hey will do it unjustly. The farmer does no more than is done by every description of mankind. He regulates his price by the demand; and that is regulated by the quantity in the market.'

Berwickshire Quarterly Report.

THE corn fields, this season, exhibited a singular anomaly in the progress of ripening; the grain, in late situations, having been as soon ready for the sickle as in those which are usually esteemed the most early.

Harvest commenced about the middle of August, and met with no interruption till the end of that month, when a tract of damp, showery weather set in, which rendered the ingathering extremely tedious, and occasioned a great deal of extra labour and expense before the crop could be finally secured. This, however was accomplished, even in the hill district, before the middle of October; and, considering the adverse weather it had to encounter, the damage sustained has, upon the whole, been comparatively trifling.

The current wage of reapers engaged for the whole harvest, was 2s. 8d. per day for men, and 2s. 6d. for women, with victuals. But the crop having come forward all at once to the sickle, occasioned a temporary advance in the weekly wages, which, at that crisis, must have gone extravagantly high, but for the assistance derived from the Stirlingshire regiment of militia quartered in Berwick. Indeed, much praise is due to the Commander-in-chief for the liberal policy he has evinced in allowing the military to assist in securing the crops all over the kingdom.

The wheat crop proves fully as defective, both in quantity and quality, as appearances had led us to suspect. The maximum of produce will not much exceed twenty-four bushels per English acre, of a quality inferior to last year; and from this it descends by various gradations, to the lower point of the scale, where a bushel or two, little better than empty husks, is all that an acre affords.

Oats turn out less productive than last year, and of inferior quality, yielding about a sixteenth less meal. Barley, though not fine in quality, yields well per acre. Peas are a poor crop. Beans are good, and expected to be pretty gifty; but few of either have yet found their way to market.

Turnips, as stated in last report, are good upon all the true turnip soils, but so inferior upon cold, retentive bottomed land, that the crop altogether can hardly be reckoned an average one. The letting price by the week is, at present, 7d. for dinmonts, and 5d. for hog sheep.

The season, throughout, having proved extremely unfavourable to the working of wheat fallows, very few are to be met with in a perfectly clean state. Wheat sowing is, however, pretty well advanced, notwithstanding the repeated dashes of rain. The early sown fields were well executed; but, recently, they have been harrowed rather wet. Perhaps a fourth part of the wheat land still remains unseeded; and, from the drenched state of the fields at present,

must now lye over till the spring. Potatoes are a weighty crop, and good in quality. Cast ewes sold, in September, about 2s. 6d. a head above the rates of last year. Dinmonts also experienced an advance in price. Lean cattle have all along sold heavily. The demand for fat has, however, been pretty steady.

The wage of farm-servants has experienced a small reduction, at the recent hiring markets. Able ploughmen were engaged at from 6*l.* to 7*l.* for the half year, with board; female servants from 40s. to 50s. per do.——23*d November.*

Fifeshire Quarterly Report.

THAT fatal distemper, the mildew, has less or more affected all the wheat crops in this county. Everywhere that grain is inferior, but to a less degree in the south part of the county, than in the north; but, along the middle district, from St Andrews by Cupar to Auchtermuchty, this distemper has nearly destroyed the crop altogether, it being supposed that upwards of a thousand acres were so infected, as not to be worth even the expense of cutting down; the very straw being useless for any thing but litter. A cartload, drawn by two good horses, did not produce more than one boll of very poor, hungry grain. In other parts, it has not been so fatal. On some farms the wheat gives stook and firlot; but, in general, where the crop is least hurt, it will not average seven bolls per acre. This disease is known by black spots on the straw. Where these appeared early, total destruction followed; where they did not appear till the grain was in flower, and well formed, the effect was less pernicious, the grain being only a little shrivelled, and not quite so plump as it ought to be. The straw is also injured in a less degree. There is no smut where the seed was properly pickled.

The appearance of the straw where the disease prevails, is accurately described in Sir Joseph Banks's pamphlet. It is at least certain that the crop suffered exactly in proportion to the early appearance and number of these spots. It remains yet to find out what will prevent or cure the disease.

Oats, in some degree, were infected with the same disease, which is probably the cause of a less produce per acre, and also less meal than, from the appearance of the crop, was to be expected. The spots on the straw were exactly similar to those on wheat; but did not appear so early, nor yet so general; a small proportion only being infected. Barley is not infected at all with this disease; and peas are a good crop. ——23. *November.*

Letter from Falkirk, Nov. 26.

'THE weather, during last quarter, has been singularly favourable to rural operations; they are consequently far advanced, and well executed. Wheat is sown extensively, no material or lasting interruption having occurred to prevent it; and, in consequence of the numerous disappointments last year, it was early put into the ground. Notwithstanding this, and the very favourable wea[illegible]er also, it is by no means so far advanced as might have been e[illegible]ect[illegible]; nor does it exhibit the luxuriant appearance, which that crop [illegible] does at this [illegible], under similar circumstances. Harvest c[illegible]nced under

very threatening appearances, from excessive wetness; and much injury was done to the growing crops at that period. Soon after, however, the weather became settled, and continued fine during the whole of that eventful process, which has seldom been more speedily or happily concluded. Reapers were more plenty, and cheaper than for several years past. The same remark will apply to farm-servants, at the two last half-yearly hiring days. The wheat crop is the worst, both in quantity and quality, that we have had for several years. It certainly cannot be estimated at less than a fourth below an ordinary average. Barley is a pretty fair crop. Oats are bulky, but woefully deficient in meal. On my farm, potatoe-oats weigh less by 28 lib. per boll than last year, making a difference of about three pecks of meal. Beans are but a middling crop, although better than last year. Potatoes, a full crop, and of excellent quality. As a considerable part of the hay was well saved in this district, it appears at present plenty;—about 1*s.* 1*d.* per stone.

'Our grain-market, after having been brisk, with high prices, especially for wheat, has, for three weeks past, been gradually falling, and has become very flat. From the state of the crop, however, this is likely to be only a temporary occurrence. At the last tryst, there was considered to be about the usual quantity of cattle exhibited on the moor.—Prices about 25 *per cent.* higher than last year, and the demand so brisk, that, by the end of the second day, scarcely a beast was left.

'High as the rent of land is now generally considered to be, it appears still to rise. A small farm, as they all are in this neighbourhood, was let a few weeks ago at 6*l.* per acre, on a tack for fifteen years, which, with the property-tax, (now a-days, indeed, probably too inconsiderable an *item* to be reckoned on by dashing adventurers), makes it amount to six guineas; and if, as is often stated, the rent should be only one-third of the produce, it would require no less than eighteen guineas per acre to make things meet,—a sum, one would be apt to think, even beyond the most sanguine expectations of that progressive rise, now so generally calculated on for times coming.'

East-Lothian Quarterly Report.

The first part of harvest was singularly favourable for ripening, cutting and ingathering of the crop; but afterwards, the weather changing, became moist; and being attended with little wind, the processes peculiar to the season were executed with extreme difficulty, and at an increased expense. Most of the wheats were safely stacked; but a great many oats, and a proportion of barleys, beans and peas, were exposed to danger in the fields for several weeks, though ultimately they were properly secured in the yard, after having suffered considerably from shedding and sprouting, during the time they remained in the field. The stack-yards, generally speaking, are not so full as in ordinary years, owing to the smallness of the bean and peas crop, and to the softness of the straw of every grain; which caused a great compression of the stacks. As to quantity, wheat, peas and beans may be reported as greatly below par; and as to quality, every kind of grain is much inferior to the pro-

such wheats cannot find a merchant in the early part of the
therefore are reserved for after-thrashing, when the demand i
urgent, and the purchasers not so nice. In point of return p
it is fully ascertained, that the produce will not exceed w
stated in the September Number of this Magazine.

A great breadth of wheat land has been sown this season ;
considerable increase will be made to it in the spring month
the turnip crop is partially consumed. Field labour of every
far advanced ; and the weather has been such as to admit its
tion in the most husbandmanlike manner. Land-rent conti
advance ; but the value of labour, when paid for in money, i
diminished. In this district, however, labour is generally p
in the necessaries of life, which assuredly is the best mode f
parties,—insuring regular subsistence to the labourer, and
wages to rise or fall in a direct proportion with the market
the articles which labourers receive in compensation for their

At a meeting of the landed interest of this county on t
current, a motion was made by that active and intelligent
nobleman, LORD BINNING ; the substance of which was, that
ritors of the several parishes should meet with the tenantry,
deavour to procure a general introduction of broad wheels, a
the alone way of procuring good roads, and saving the coun
that immense expense necessary at this time for repairing ther
narrow wheels are in general use. It was objected by anot
son, that though the principle which guided the noble mem
a good one, and deserved the most respectful approbation, it

meeting of the county. The motion, thus amended, was unanimously agreed to, and, it is to be hoped, will ultimately produce important advantages to the country at large.

When noticing this branch of county business, a few reflections on the importance of the subject then under consideration may not be out of place. Broad wheels are pretty common in England; and the Legislature, sensible of their advantage, have, in every case, reduced the rate of tolls one half in their favour. This reduction of turnpike duty, however, cannot procure their introduction into any county or district where narrow wheels are generally used, because it is, in several respects, impracticable to travel roads with carriages upon broad wheels, so long as the majority of carriages are mounted upon narrow ones. The latter make a rut or track, into which the former cannot go; hence broad wheels are impeded at every step, and made to go so unsteadily that the increased labour much more than compensates the benefit of a reduced turnpike duty. The case would be very different, were all carriages mounted upon broad wheels; because the track or rut would be of an equal size, while it would not be so deep, and, of course, not so detrimental to the roads. From trials made, we are perfectly satisfied that carriages upon broad wheels are drawn with equal ease upon a well made road, as those upon narrow wheels; and, in some cases—say when a road is newly covered with materials, with much greater facility. This being the fact, all that is required to bring them into general use, is a law, which enacts, that no more narrow wheels shall be made; and that, after a certain period, say five years, which would allow the present stock of wheels to be worn out, such should be absolutely prohibited from passing over the roads. Something of this kind is absolutely called for; otherwise broad wheels can never be introduced into any district where those of a narrow construction are generally used.—29. *Nov.*

ENGLAND.

Yorkshire Quarterly Report.

The thrashing of the wheat crop fully confirms the report of last quarter on the subject of mildew, very few samples being fit for market; so that there is a most unusual variety in prices of this article, from 7s. to 15s. per bushel in the same market day. Barley is good; Oats indifferent; Rye abundant on the few acres that are grown; Beans and Peas very middling crops, the latter having completely failed in many instances. It is likely that more barley and rye will be made use of for bread than usual. A mixture of these with wheat, will be found wholesome and economical in the present state of things.

The market for all sorts of grain is now perhaps at a higher ratio than was ever before known in this county, during the month of *November*,—a period in which the grower has his supplies to raise for payment of rent, wages, &c., and, of course, when the markets of grain are usually full supplied; yet cattle and shambles meat are lower than usual. The inference is, that the country at large is in a

most unprosperous state. This island is ever most prosperous, whe grain is *moderate*,, and shambles meat *dear*. There cannot exist more infallible criterion.

Stocks of sheep seem healthy, and stand well as yet; considerable prices are given for turnips for their winter support. Fled are selling off at low prices; so that, on the whole, little encourage ment is holden out to the owners. Even the wools, if not fine an short, are at a low ebb. The last growth of hemp and flax, is likely to be disposed of at very advanced prices.

The present state of the weather is favourable to the feeding o the after grasses, which are exuberant; consequently, a considerabl reserve will be made of winter food of all kinds for cattle. Thi circumstance would usually decide that the price of live stock is no too discouraging. It is understood that the stock of old grain o every description is nearly exhausted. Of malt, very little indee is reported to remain on hand.—15. *Nov.*

Letter from Wales, 17. *November.*

'We had unsettled weather in the beginning of harvest, and litt of the crop was carried till about the 15th August, when the weathe took up, and did not give us a shower till Tuesday the 30th; by whic time, nearly all the wheat and oats were safely stacked. But on the day the weather broke again; after which we had a fortnight of a most constant rain; and the weather being mild, the corn that wa out suffered greatly; barley, in particular, where the enclosure were small (which is the case in most of this country), grew ver fast, and lost its colour; of course, we have a great quantity o that grain damaged, and no market for it at any price. Som wheat and oats were not got in till after the rain, and are of litt value. No grain whatever sells so ill as grown wheat; but th great bulk being well got, we have little reason for complaint. W had, in general, a fair average crop; but the report is, that th wheat does not weigh so well as last year. What I have thrashe has been for seed, and of course the best. I have not sent any t the mill; therefore, cannot say how it weighs; but it looks wel and yields well to the stook. Our markets have advanced considerably since harvest for grain of all kinds. Wheat is now as hig as 32s. for 168 pounds; oats, of good quality, from 30s. to 32s. good barley 48s. and 50s. per quarter. Turnips are but an indi ferent crop, having failed in many places. They will be the mor missed, as much of the barley straw is of bad quality; but our ha was good, and well got, which is a great matter. We have litt demand for cattle; but the prices are low for both fat and lea stock, either cattle or sheep. Butcher meat is low in price, whic often happens at this season of the year; yet butter and cheese n ver were known to sell better. Pigs are a drug. Our iron work which for some time past have been dull, now go on with gre spirit, and trade seems again to flourish.'—17. *Nov.*

Northumberland Quarterly Report.

The weather, during the greatest part of August, being exceedin favourable for harvest-work, grain of every description became ri

much earlier than was expected; and whatever was carried in the month of Auguſt, was got in excellent condition; but, after that period, the corns which remained in the field were much injured by the changeable and wet weather which continued through September and October; and many of the ſummer-fallows on moiſt ſoils were thereby prevented from being ſown with wheat in proper ſeaſon.

In laſt report it was ſtated, that apprehenſions prevailed of a conſiderable failure in the wheat crop, from the compound diſeaſes of the yellow maggot, and the ruſt or fungus on the ſtraw. Theſe diſeaſes have proved more fatal than was then expected. In ſeveral places, the crops have been thought ſcarcely worth reaping; and, in others, have been mown and carried for litter into the dung-yard. The general opinion ſeems to be, that the produce will not be much more than half an average crop.

There are a few inſtances of crops that have eſcaped,—probably *from ſituation*, or the TIME OF FLOWERING. To note them, may be gratifying to the curious reader, and probably uſeful, in lending ſome aid towards inveſtigating the cauſe.

In Holy Iſland, which is ſurrounded by the ſea, the wheat crops were not injured. At Amble, a field of wheat that had a projecting point into the ſea, was wholly affected,—except this point, which was perfectly free from diſeaſe. To the north of Whitby, in Yorkſhire, the crops of wheat along the ſea-coaſt, on the top of the very high allum rocks, have eſcaped; but, as they recede from the ſhore, the diſeaſe appeared. All theſe ſituations are not only adjoining the ſea, but are perfectly open to the morning ſun, and to every breeze that blows. There are alſo ſome inſtances of crops having eſcaped in mountainous ſituations, and ſimilar expoſures. The real ſpring wheat ſown in March was in general very bad; but what was ſown the latter end of April, and beginning of May, eſcaped all diſeaſe. The barley crop is abundant; oats about an average; but the grains of both are ſmaller than uſual. Beans and peas are ſomething under an average. Turnips will prove a deficient crop, having ceaſed to grow at a much earlier period than was ever remembered. In fact, this root has made little progreſs ſince the middle of September. Decent crops are ſelling from 7l. to 9l. an acre. Potatoes are an abundant crop, and good in quality.—*Nov.* 19.

Norfolk Quarterly Report.

DURING the month of Auguſt the weather continued very fine, and the wheat harveſt, generally ſpeaking, was well ended. Although the crop of that grain was much injured by mildew, the produce far exceeds what farmers expected before the thraſhing ſeaſon commenced; and it is now pretty well aſcertained, that the deficiency will not exceed one fourth of our uſual produce, though no doubt the quality is inferior, and may be ſaid to weigh leſs, by 4 lib. in the buſhel, than laſt year. Peas and oats were got dry. The breadth of the former, ſown, was narrow, and the produce far ſhort of an average crop. The breadth of the latter was very extenſive, the produce abundant, and the quality good. With regard to barley, it is calculated that not above one third of it was duly harveſted, as September ſet in with rain, and continued wet to the end of the

month; so the latter part of barley harveſt was finiſhed imperfectly much of the grain being diſcoloured and ſprouted. Wheat-ſowing commenced early, the land being in a good ſtate of cultivation for receiving the ſeed. The planting of that valuable grain has been chiefly finiſhed during the three paſt weeks. Turnips have not made much progreſs in growth ſince September, owing to the immenſe quantity of rain which fell at that time. The average of the county cannot be called more than a half crop. Store ſheep have not ſold ſo high as they did before harveſt; as there appears to be a difference of full 3 *per cent.* in their value. Scotch cattle in forward condition are ſelling at as high prices as known for many preceding years. Grain of every deſcription has gradually advanced in price ſince the concluſion of harveſt.——*Nov.* 19.

Letter from the East Riding of Yorkshire, 22d November.

'THE harveſt in this diſtrict was rather teazing, yet tolerably good; and the crops of grain were in general ſecured in fair condition, by thoſe who were poſſeſſed of a moderate ſhare of patience and exertion: where theſe qualities were wanting, it was carried in bad condition. The crops of wheat, oats and beans were, I think, injured by the hot weather, and ſubſequent heavy rains, in the month of July. Wheat ſuffered ſeverely, particularly thoſe fields that had been ſown late upon ſoils rich either by nature or art; they being ſo much mildewed that the ſtraw was almoſt black: but where it was not mildewed, it falls full one-fourth ſhort of laſt year's crop in quantity, and vaſtly inferior in quality, the weight being 7 to 8 lib. per buſhel leſs on the beſt qualities, whilſt the worſt is ſo bad that it is not fit for any thing but hogs and poultry, and can't be much more than half of it cleared from the ſtraw, where machines are not uſed: even where they are, there is a great deal of it remains in the ear. I believe the crop, taken altogether in this diſtrict, will be one-third ſhort of laſt year. There has ſcarcely been any oats thraſhed yet with us; therefore, can't ſay much reſpecting the yield; but they will be much ſmaller than laſt year, and, I think, will not be ſo good a crop. Beans are not more than half an average crop, though of prime quality. Barley turns out well; but the quality and condition is very variable, ſome being much ſtained in the field, and others much heated in the ſtack. Flax is a fair crop this year, and the quality in general good. The price is high ſay 14s. to 20s. per ſtone of 14 lib. Seed is 105s. to 110s. per quarter at the oil-mills, and 120s. to 140s. per ditto for ſowing, and expected higher. Potatoes have turned up a fair crop in general, and ſell readily at 9s per tub of 14 pecks for kidneys. Fat cattle have hitherto been plentiful, and ſell at 6s. to 7s. 6d. per ſtone of 14 lib. ſink. Lean cattle ſomething higher than laſt year; pigs full 50 *per cent.*, and ſtore ſheep 20 and 25 *per cent.* higher than laſt year. Grain is now ſelling,—Wheat at 90s. to 105s. per quarter old, 110s. to 112s. per ditto. Oats, new, none: Old, 32s. to 34 or 36s. Beans, 70s to 73s. Barley, 40s. to 50s. Rape ſeed, 50 per laſt of 10 quarters.

'As to the diſeaſes which attacked wheats in this diſtrict, I can

say much, my ideas not being sufficiently comprehensive to account for them rationally. Thus much I do know, and can with confidence assert, that mildew was not the sole cause of failure, since the grain is very defective where the straw is as bright as I ever saw any in my life; yet, although the straw is bright in its colour, the foliage did not strip off and fall to the ground, as when it arrives more gradually at full maturity. My opinion is, that all grain ripened prematurely. And I think, during the bright hot days in the latter part of June and early part of July, the earth had been so much heated by the rays of the sun, that the heavy showers which fell in July, created such a high fermentation as to cause putrefaction in all, or nearly all, the fibres of the roots of grain that were approaching fast to puberty. The nearer it was to that state, the less it was injured; as was fully evinced near the sea-coast, in the eastern part of this Riding, the harvest being *naturally* earlier there than in situations more remote from the sea, by eight or ten days; and there the wheat is of very superior quality for this year, late sown fields excepted, which are mildewed. I can't think, as Mr John Egremont does, that mildew is caused by frosty nights, and bright sunny days, as I could not perceive that there was any symptom of frost immediately preceding the disease this year. On the contrary, the nights were uncommonly sultry and hot; therefore the analogical philosophy held forth in his pamphlet on mildew, falls to the ground.

'The quantity of wheat sown here this year is much the same as in former years. Sowing wheat after turnips is exploded amongst the turnip growers in this Riding. They say, they can't get it good for any thing, comparatively speaking; and that they are better paid by sowing barley and seeds. Our autumnal sown wheat went into the ground very favourably, and looks well, where due attention has been paid to cleaning, dunging, and draining the land. Harvest being so early finished, there has been much time for getting a good breadth of land ploughed, and laid dry for winter; which has been done, in many instances, in most excellent order.'

Letter from London, 22d November.

'At the date of last report, the harvest was begun in the early districts; but, even in these, it had not made much progress before the rains set in. The crops have suffered more or less over the whole of Great Britain and Ireland, from being badly harvested.

'Wheat, besides the injury sustained during harvest, had previously received a severe check in its tender state, from mildew and blight, which greatly deteriorated its quality, and also diminished the quantity. It is generally reported to be a fourth part deficient of an average crop, but it has been lately found to be more productive from the straw than was at first expected.

'The growth of barley is thought to be abundant, but its quality very various, and much of it unfit for malting. It turns out, however, more deficient than was looked for, although the first opinions of its quality prove pretty correct.

'The crop of oats, from increased cultivation, was thought to be very large; but they are found to yield very badly from the straw, and are of light and poor quality. Beans and peas are both greatly failing crops, but rye has been abundant. These are all of good quality.

'The untoward season for wheat-seeding, has prevented some farmers from getting to their barn operations (although those who were active got their work over in very fine order), which has caused the supplies of new corn to come to this market rather irregularly; but they have been, upon the whole, sufficient; and, immediately after harvest, as well as at the present moment, the quantity of wheat appears equal to what it has been in the seasons of greatest plenty.

'There has been rather a want of barley and oats (notwithstanding the high prices), which is probably owing to the stock not yet requiring the straw, and which may be probably soon made up. A few cargoes of grain of all kinds, have been smuggled over from the Continent; and, if prices encourage, they may continue to come in same manner in the spring. It is however supposed, that this market will be well supplied, during winter, with wheat from the home counties; and that, with the assistance of Ireland, there will be abundance of oats for our consumption.

'As the distilleries are to continue to work on sugar till forty days after the meeting of Parliament, it is likely that inferior barley will be so cheap an article, as to induce their adoption in feeding, in place of the grains which the distillers were accustomed to furnish.

'The present season may be expected to produce frequent fluctuations in prices of corn of all kinds. They have already been very high, and seem now to give way to supplies; but it is doubtful if they have seen their lowest, even for the present. So many external as well as internal causes, may, in such times, affect them, that opinions formed on the soundest principles to-day, may be overturned in a week, and are therefore not worth offering.'

Cumberland Quarterly Report.

The weather, during the six last months, though sometimes rainy and tempestuous, has in general been favourable to the labours of the husbandman. The quantity of rain in June was two inches; number of wet days (meaning those days when *any* rain, snow or hail fell) twelve. In July, three inches two tenths; wet days, seventeen. In August, four inches; wet days, eighteen. In September, two inches; wet days, seventeen. In October, five inches one tenth, of which one inch two tenths fell in one storm, on the 25th day of that month; wet days, twenty-two. Hay and corn harvests were unusually fine. The weather was rather precarious at the conclusion of the hay harvest; but corn was secured, even in the *most upland* situations, without any injury. Hay, particularly that from sown grasses, quantity and quality considered, is above an average. The quality of the meadow hay was injured by the weather; the quantity very great. Cumberland has great cause to be thankful to Providence for almost wholly withholding those truly awful scourges, mildew and blight, which have so much injured

the crops in ſome of the moſt fertile parts of theſe iſlands. Wheat is much better than at one period could have been expected. Heavy falls of rain during the flowering ſeaſon have occaſioned the diſeaſe termed by botaniſts *Abortus*; in conſequence of which, too many have to complain of lean and hungry grain. Smut has partially affected it. At the ſame time, it is to be doubted whether it is more than one eighth below our uſual average. Barley, owing to the exceſſively hot ſummer, the thermometer frequently being at 70 or upwards, and once at 81, is by no means a good crop; the *early* and very *late sown* crops are the beſt. Oats are ſmall and ſhrivelled. Some ſown *so early as the 22d* of February, are not HALF a crop; nor can any *decided preference* be given to thoſe which were ſown in the month of *March*, when compared with thoſe ſown in *April*. Turnips are a very poor crop. Potatoes uniformly excellent. The produce of one acre is in ſome inſtances 500 buſhels Wincheſter; and many ſingle potatoes weighed four and five pounds.

The Workington Agricultural Meeting was well attended; though the concourſe of members would have been more numerous, had the weather been more favourable. A piece of plate was voted to J. C. Curwen Eſq. Preſident, on account of his ſpirited exertions in promoting the intereſts of agriculture. His experiments on the long and ſhort-horned, the Suſſex, Hertfordſhire, Glamorgan, Kyloe and Galloway breed of cattle, conducted with a view to diſcover which of theſe afford the greateſt return for the leaſt quantity conſumed, are extremely intereſting. The Preſident holds a ſituation of great reſpectability, and merits great praiſe for his endeavours to promote the agriculture of Cumberland. It requires a noble independence and ſtrength of mind, to act with ſteady impartiality towards the members of the ſociety at large, and to ſacrifice the feelings of *private friendſhip* and *intereſt* to thoſe of *juſtice* and public utility. If he continues to introduce the improvements of other counties into this one; to impreſs upon the rich the importance of granting leaſes, and upon the poor the advantages reſulting from induſtry and economy;—if he invariably remembers the juſt ſentiment of unfortunate Dido—*Tros Tyriuſque mihi nullo diſcrimine agetur*,—every individual in the Society muſt rejoice to ſee his labours rewarded. Thoſe in the leaſt acquainted with the backward ſtate of agriculture in Cumberland, muſt rejoice to find men of ſtrong intellects, and a patriotic ſpirit, particularly in the vicinity of Carliſle and Penrith, expending a very conſiderable capital in the improvement of their landed property, and affording a ſtriking example of the neceſſity and *utility* of relinquiſhing the paths of Prejudice and Cuſtom, and following thoſe of Reaſon, Truth, and Experience. We have too much reaſon to fear, leſt that timid and *parſimonious* ſpirit, which has hitherto cramped every effort at improvement, ſhould continue to prevent the occupiers of our recently encloſed waſtes from availing themſelves of the increaſe of agricultural knowledge.——*25. November.*

Eſſex Quarterly Report.

WITH but few exceptions, the weather, in harveſt, was generally fine for moſt grain; though ſome ſmall quantities of barley ſuffered ſeverely from the rains, towards the concluſion; inſomuch, that there

is a difference in value of more than 20s. per quarter; whilst many of those that were well harvested, as well as wheat, are of coarse quality, and very light. Barley may be reported as about an average crop, as to quantity; but wheat is not more than two-thirds, being very unproductive, from nearly a general blight. Peas are short of half a crop, many having been ploughed up, from the ravages of a number of insects, which destroyed a large quantity in the early part of the season; and those that escaped were weak plants. Not many beans are sown in this county; but those that were sown are reasonably productive. Oats, in general, are a pretty good crop, and expected to yield a reasonable quantity per acre, but not of so fine a quality as usual. The young wheats, from lateness in sowing, are rather weak, but the plant is tolerably healthy, which, with the openness of the season, may bring about their usual strength. Rye and tares make a fair appearance on the ground; but tares are only sown in small quantities, from the dearness and deficiency of seed. Clover seed is generally bad; the forward crop having yielded little seed, whilst the latter was spoiled by the heavy rains in October. Trefoil not a great crop, but the seed good. Rapeseed not much grown; but, where cultivated, is of good quality. With respect to thrashing, farmers in general have been very active; and the present season being fine for the tillage of land, that part of agriculture is in a state of great forwardness. Stock sheep are unusually cheap, from the failure of the turnip crop, which is very late. The first plants were taken off by the fly, and they had few showers afterwards to invigorate them, till the season was too far advanced. Neat cattle of every description are cheap; and good horses sell freely.—*24th Nov.*

NOTICES TO CORRESPONDENTS

We are extremely sorry that the Reports from Lincoln, Aberdeen, Wigton, Tweeddale, West Stirling and Langholm, are not inserted. It was out of our power to find room for these Reports, and also for the state of markets in London and Glasgow, notwithstanding that almost every report and letter of intelligence was considerably abridged. We trust our reporters will be so kind as excuse these omissions Want of room, also, prevents our making our acknowledgements for the numerous and valuable communications lately received.

Judgment is not yet pronounced on the several essays offered in competition for the premium offered in our June Number. It is meant to submit the whole of them to the consideration of the respectable gentleman who did us the honour of stimulating our numerous correspondents to discuss a question confessedly of great importance to the interests of agriculture, by proposing a premium to the person who discussed it with the greatest ability.

No. XXXVII. will be published on Monday, 6th March, 1809.

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ERRATUM *(but only in some copies.)*

P. 531. l. 5. *for*, Indeed, there are no farmers, properly so called in either of the countries,—*read*, Indeed, there are few farmers, properly so called, in these countries.

END OF VOLUME NINTH.

D. Willison, Printer, Edinburgh.]

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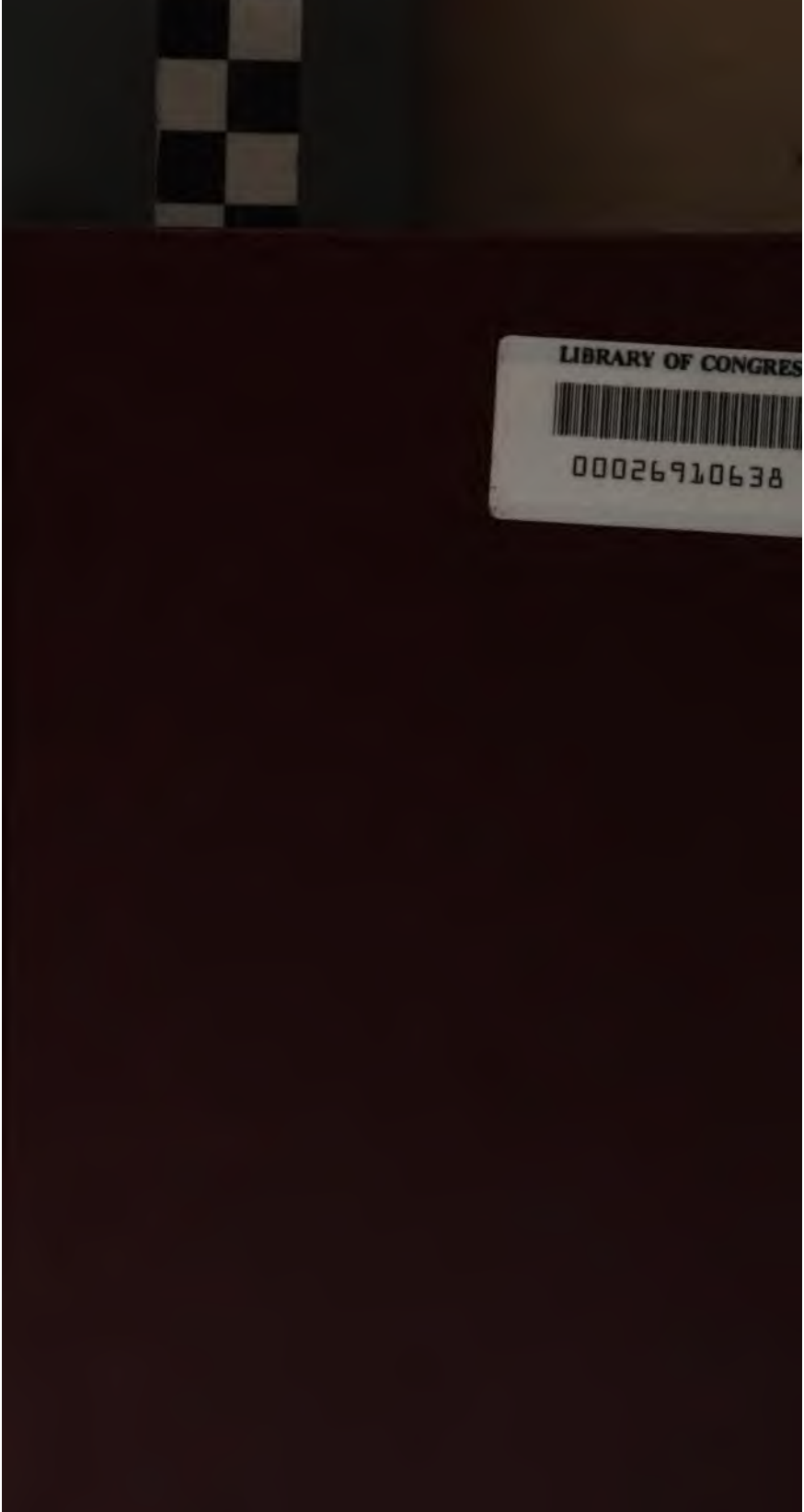
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